

VPDES PERMIT PROGRAM FACT SHEET

FILE NO: 257

This document gives pertinent information concerning the VPDES Permit listed below. This permit is being processed as a **MAJOR INDUSTRIAL** permit.

1. PERMIT NO.: VA0003433 EXPIRATION DATE: December 11, 2012
2. FACILITY NAME AND LOCAL MAILING ADDRESS FACILITY LOCATION ADDRESS (IF DIFFERENT)
- Hercules, Incorporated Same
27123 Shady Brook Trail
Courtland, VA 23837
- CONTACT AT FACILITY: CONTACT AT LOCATION ADDRESS
NAME: Andrew B. Chapman NAME: Sean Maconaghy
TITLE: Plant Manager TITLE: Safety Health & Environmental Manager
PHONE: (757) 562-3121 PHONE: (757) 562-3121 ext. 176
3. OWNER CONTACT: CONSULTANT CONTACT: NA
NAME: Andrew B. Chapman NAME:
TITLE: Plant Manager FIRM NAME:
COMPANY NAME: (same) ADDRESS:
ADDRESS: PHONE: ()
PHONE: (757) 562-3121
4. PERMIT DRAFTED BY: DEQ, Water Permits, Regional Office
Permit Writer(s): Sauer Date(s): 10/10-1/11
Reviewed By: *McConathy* Date(s): *01/10/2001*
5. PERMIT ACTION:
() Issuance () Reissuance () Revoke & Reissue (X) Owner Modification
() Board Modification () Change of Ownership/Name [Effective Date:]
6. SUMMARY OF SPECIFIC ATTACHMENTS LABELED AS:
- | | |
|----------------------|--|
| Attachment <u>1</u> | Site Inspection Report/Memorandum |
| Attachment <u>2</u> | Discharge Location/Topographic Map |
| Attachment <u>3</u> | Schematic/Plans & Specs/Site Map/Water Balance |
| Attachment <u>4</u> | TABLE I - Discharge/Outfall Description |
| Attachment <u>5</u> | TABLE II - Effluent Monitoring/Limitations |
| Attachment <u>6</u> | Effluent Limitations/Monitoring Rationale/Suitable
Data/Antidegradation/Antibacksliding |
| Attachment <u>7</u> | Special Conditions Rationale |
| Attachment <u>8</u> | Toxics Monitoring/Toxics Reduction/WET Limit Rationale |
| Attachment <u>9</u> | Material Stored |
| Attachment <u>10</u> | Receiving Waters Info./Tier Determination/303(d) Listed Segments |
| Attachment <u>11</u> | TABLE III(a) and TABLE III(b) - Change Sheets |
| Attachment <u>12</u> | NPDES Industrial Permit Rating Worksheet and EPA Permit Checklist |
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| Attachment <u>14</u> | Pertinent Correspondence |
| Attachment <u>15</u> | Public Participation |

APPLICATION COMPLETE: September 10, 2010 upon notification from permittee of the actual temperature limit to use in the modified permit.

7. PERMIT CHARACTERIZATION: (Check as many as appropriate)

<input checked="" type="checkbox"/> Existing Discharge	<input checked="" type="checkbox"/> Effluent Limited
<input type="checkbox"/> Proposed Discharge	<input checked="" type="checkbox"/> Water Quality Limited
<input type="checkbox"/> Municipal	<input checked="" type="checkbox"/> WET Limit
SIC Code(s)	<input type="checkbox"/> Interim Limits in Permit
<input checked="" type="checkbox"/> Industrial	<input type="checkbox"/> Interim Limits in Other Document
SIC Code(s) 2861, 2869, 2899	<input type="checkbox"/> Compliance Schedule Required
<input type="checkbox"/> POTW	<input type="checkbox"/> Site Specific WQ Criteria
<input type="checkbox"/> PVOTW	<input type="checkbox"/> Variance to WQ Standards
<input checked="" type="checkbox"/> Private	<input type="checkbox"/> Water Effects Ratio
<input type="checkbox"/> Federal	<input type="checkbox"/> Discharge to 303(d) Listed Segment
<input type="checkbox"/> State	<input checked="" type="checkbox"/> Toxics Management Program Required
<input type="checkbox"/> Publicly-Owned Industrial	<input type="checkbox"/> Toxics Reduction Evaluation
	<input checked="" type="checkbox"/> Storm Water Management Plan
	<input type="checkbox"/> Pretreatment Program Required
	<input checked="" type="checkbox"/> Possible Interstate Effect
	<input type="checkbox"/> CBP Significant Dischargers List

8. RECEIVING WATERS CLASSIFICATION: River basin information.

Outfall No(s): 002, 201, 902

Receiving Stream: Nottoway River
River Mile: 15.74
Basin: Chowan and Dismal Swamp
Subbasin: Chowan River
Section: 1
Class: II
Special Standard(s): NEW-21
Tidal: YES
7-Day/10-Year Low Flow: 19.38 MGD
1-Day/10-Year Low Flow: 18.09 MGD
30-Day/5-Year Low Flow: 42 MGD
Harmonic Mean Flow: 203 MGD

Outfall No(s): 003, 004, 005, 006 (004-old condensate ditch; 005-natural swale; 006-old outfall 001; 004-006 are existing storm water discharges newly addressed in the permit)

Receiving Stream: Wills Gut to the Nottoway River
River Mile: 15.79
Basin: Chowan and Dismal Swamp
Subbasin: Chowan River
Section: 2b
Class: III
Special Standard(s): none
Tidal: NO
7-Day/10-Year Low Flow: 0 MGD
1-Day/10-Year Low Flow: 0 MGD
30-Day/5-Year Low Flow: 0 MGD
Harmonic Mean Flow: 0 MGD

9. FACILITY DESCRIPTION: Describe the type facility from which the discharges originate.

EXISTING industrial discharge resulting from the following operations:
manufacturing of paper sizing agents and organic peroxide.

10. LICENSED OPERATOR REQUIREMENTS: () No (X) Yes Class: II

11. RELIABILITY CLASS: Industrial Facility - NA

12. SITE INSPECTION DATE: 4/2/08 REPORT DATE: 4/16/08

Performed By: J. LaCroix

SEE ATTACHMENT 1

13. DISCHARGE(S) LOCATION DESCRIPTION: Provide USGS Topo which indicates the discharge location, significant (large) discharger(s) to the receiving stream, water intakes, and other items of interest.

Name of Topo: Courtland and Franklin topos Quadrant No.: 6A & 5B SEE ATTACHMENT 2

14. ATTACH A SCHEMATIC OF THE WASTEWATER TREATMENT SYSTEM(S) [IND. & MUN.]. FOR INDUSTRIAL FACILITIES, PROVIDE A GENERAL DESCRIPTION OF THE PRODUCTION CYCLE(S) AND ACTIVITIES. FOR MUNICIPAL FACILITIES, PROVIDE A GENERAL DESCRIPTION OF THE TREATMENT PROVIDED.

SEE ATTACHMENT 3 (CAN ALSO REFERENCE TABLE I)

15. DISCHARGE DESCRIPTION: Describe each discharge originating from this facility.

SEE ATTACHMENT 4

16. COMBINED TOTAL FLOW:

TOTAL: 5 MGD (for public notice)

PROCESS/COOLING WATER FLOW: 4.9 MGD (IND.)

NONPROCESS/RAINFALL DEPENDENT FLOW: 0.1(Est.)

17. STATUTORY OR REGULATORY BASIS FOR EFFLUENT LIMITATIONS AND SPECIAL CONDITIONS:
(Check all which are appropriate)

☒ State Water Control Law
☒ Clean Water Act
☒ VPDES Permit Regulation (9 VAC 25-31-10 et seq.)
☒ EPA NPDES Regulation (Federal Register)
☒ EPA Effluent Guidelines (40 CFR 133 or 400 - 471)
☒ Water Quality Standards (9 VAC 25-260-5 et seq.)
☐ Wasteload Allocation from a TMDL or River Basin Plan

18. EFFLUENT LIMITATIONS/MONITORING: Provide all limitations and monitoring requirements being placed on each outfall.

SEE TABLE II - ATTACHMENT 5

19. **EFFLUENT LIMITATIONS/MONITORING RATIONALE:** Attach any analyses of an outfall by individual toxic parameter. As a minimum, it will include: statistics summary (number of data values, quantification level, expected value, variance, covariance, 97th percentile, and statistical method); wasteload allocation (acute, chronic and human health); effluent limitations determination; input data listing. Include all calculations used for each outfall and set of effluent limits and those used in any model(s). Include all calculations/documentation of any antidegradation or anti-backsliding issues in the development of any limitations; complete the review statements below. Provide a rationale for limiting internal waste streams and indicator pollutants. Attach chlorine mass balance calculations, if performed. Attach any additional information used to develop the limitations, including any applicable water quality standards calculations (acute, chronic and human health).

OTHER CONSIDERATIONS IN LIMITATIONS DEVELOPMENT:

VARIANCES/ALTERNATE LIMITATIONS: Provide justification or refutation rationale for requested variances or alternatives to required permit conditions/limitations. This includes, but is not limited to: waivers from testing requirements; variances from technology guidelines or water quality standards; WER/translator study consideration; variances from standard permit limits/conditions.

N/A

SUITABLE DATA: In what, if any, effluent data were considered in the establishment of effluent limitations and provide all appropriate information/calculations.

All suitable effluent and lagoon data were reviewed.

ANTIDEGRADATION REVIEW: Provide all appropriate information/calculations for the antidegradation review.

The receiving stream has been classified as tier 2; therefore, no significant degradation of the existing water quality will be allowed. See antidegradation calculations/determinations.

ANTIBACKSLIDING REVIEW: Indicate if antibacksliding applies to this permit and, if so, provide all appropriate information.

Backsliding applies to this permit but conforms to the anti-backsliding provisions of section 402 (o) of the Clean Water Act, 9 VAC 25-31-220 L. of the VPDES Permit regulation and 40 CFR 122.44 (1).

20. **SPECIAL CONDITIONS RATIONALE:** Provide a rationale for each of the permit's special conditions.

SEE ATTACHMENT 7

21. **TOXICS MONITORING/TOXICS REDUCTION AND WET LIMIT SPECIAL CONDITIONS RATIONALE:** Provide the justification for any toxics monitoring program and/or toxics reduction program and WET limit.

SEE ATTACHMENT 8

22. **SLUDGE DISPOSAL PLAN:** Provide a description of the sludge disposal plan (e.g., type sludge, treatment provided and disposal method). Indicate if any of the plan elements are included within the permit.

Waste sludge is de-watered on a belt filter press for disposal at a landfill.

23. **MATERIAL STORED:** List the type and quantity of wastes, fluids, or pollutants being stored at this facility. Briefly describe the storage facilities and list, if any, measures taken to prevent the stored material from reaching State waters.

SEE ATTACHMENT 9

24. **RECEIVING WATERS INFORMATION:** Refer to the State Water Control Board's Water Quality Standards [e.g., River Basin Section Tables (9 VAC 25-260-5 et seq.)]. Use 9 VAC 25-260-140 C (introduction and numbered paragraph) to address tidal waters where fresh water standards would be applied or transitional waters where the most stringent of fresh or salt water standards would be applied. Attach any memoranda or other information which helped to develop permit conditions (i.e. tier determinations, PReP complaints, special water quality studies, STORET data and other biological and/or chemical data, etc.

SEE ATTACHMENT 10

25. **305(b)/303(d) Listed Segments:** Indicate if the facility discharges to a segment that is listed on the current 303(d) list and, if so, provide all appropriate information/calculations.

TMDLs are not included in this permit as the receiving waters are not listed on the 303(d) list.

SEE ATTACHMENT 10

26. **CHANGES TO PERMIT:** Use TABLE III(a) to record any changes from the previous permit and the rationale for those changes. Use TABLE III(b) to record any changes made to the permit during the permit processing period and the rationale for those changes [i.e., use for comments from the applicant, VDH, EPA, other agencies and/or the public where comments resulted in changes to the permit limitations or any other changes associated with the special conditions or reporting requirements].

SEE ATTACHMENT 11

27. **NPDES INDUSTRIAL PERMIT RATING WORKSHEET:**

TOTAL SCORE: 100 SEE ATTACHMENT 12

28. **DEQ PLANNING COMMENTS RECEIVED ON DRAFT PERMIT:** Document any comments received from DEQ planning.

The discharge is not addressed in any planning document but will be included when the plan is updated.

29. **PUBLIC PARTICIPATION:** Document comments/responses received during the public participation process. If comments/responses provided, especially if they result in changes to the permit, place in the attachment.

VDH/DSS COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from the Virginia Dept. of Health and the Div. of Shellfish Sanitation and noted how resolved.

By letter dated May 21, 2007, the VDH provided the following comments: The raw water intake for the City of Norfolk is located six miles upstream of the discharge. This should be a sufficient distance to minimize the impacts of the discharge. VDH recommends a minimum reliability class III for this facility. They do not object to the discharge.

The DSS has no comments on the application permit, by letter dated June 5, 2007 (project does not affect shellfish waters).

EPA COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from the U.S. Environmental Protection Agency and noted how resolved.

EPA has no objections to the adequacy of the draft permit.

ADJACENT STATE COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from an adjacent state and noted how resolved.

The draft permit was sent to North Carolina and no comments were received.

OTHER AGENCY COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from any other agencies (e.g., VIMS, VMRC, DGIF, etc.) and noted how resolved.

Not Applicable.

OTHER COMMENTS RECEIVED FROM RIPARIAN OWNERS/CITIZENS ON DRAFT PERMIT: Document any comments received from other sources and note how resolved.

The application and draft permit have received public notice in accordance with the VPDES Permit Regulation, and one comment was received. The Blackwater/Nottoway Riverkeeper, Mr. Jeff Turner, was notified of the modification and offered an acknowledgement but no comments to the modification.

PUBLIC NOTICE INFORMATION: Comment Period: Start Date February 4, 2011
End Date March 6, 2011

Persons may comment in writing or by e-mail to the DEQ on the proposed issuance/reissuance/modification of the permit within 30 days from the date of the first notice. Address all comments to the contact person listed below. Written or e-mail comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The Director of the DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requestor's interests would be directly and adversely affected by the proposed permit action.

All pertinent information is on file and may be inspected, and arrangements made for copying by contacting Mark Sauer at: Department of Environmental Quality (DEQ), Tidewater Regional Office, 5636 Southern Boulevard, Virginia Beach, VA 23462. Telephone: 757-518-2105 E-mail: mark.sauer@deq.virginia.gov

Following the comment period, the Board will make a determination regarding the proposed issuance/reissuance/modification. This determination will become effective, unless the Director grants a public hearing. Due notice of any public hearing will be given.

30. ADDITIONAL FACT SHEET COMMENTS/PERTINENT INFORMATION:

The permit modification in 2011 consists of the following:

1. Removing the internal outfall 202 that was added to the permit in the 2010 modification to address the discharge of wastewater holding lagoon and sludge pit dewatering under an EPA-lead RCRA corrective action. That activity has concluded and is no longer discharging; the outfall is no longer needed and is not in use.
2. Change the temperature limitation at outfall 002 from 30 degrees Celsius to 32 degrees Celsius, based on a thermal mixing zone study provided by the permittee.

There are no other changes to effluent limitations or monitoring conditions with this modification.

ATTACHMENT 1

SITE INSPECTION REPORT/MEMORANDUM

Facility:	HERCULES, INC.
County/city:	SOUTHAMPTON COUNTY

VPDES NO.	VA0003433
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**DEPARTMENT OF ENVIRONMENTAL QUALITY
WASTEWATER FACILITY
INSPECTION REPORT
PART 1**

Inspection date:	April 2, 2008	Date form completed:	April 16, 2008
Inspection by:	Jennifer J. LaCroix	Inspection agency:	DEQ/TRO
Time spent:	14 hours	Announced inspection:	[] Yes [X] No
Reviewed by: Kenneth T. Raum <i>KTR</i>		Photographs taken at site?	[X] Yes [] No
Present at inspection:	Roy Hart – SHE Manager, Chris Moniz – Safety/Environmental Engineer, Mark Sauer & Deanna Austin - DEQ		
FACILITY TYPE:		FACILITY CLASS:	
() Municipal		(X) Major	
(X) Industrial		() Minor	
() Federal		() Small	
() VPA/NDC		() High Priority () Low Priority	
TYPE OF INSPECTION:			
Routine	X	Reinspection	Compliance/assistance/complaint
Date of previous inspection:	October 24, 2006	Agency:	DEQ/TRO
Population Served:	N/A	Connections Served:	N/A
Last Month Average: Influent	BOD ₅ (mg/l)	TSS (mg/l)	Flow (MGD)
	Other:		
Last Month Average: Effluent: Outfall 002 February 2008	BOD ₅ (mg/l)	TP (mg/l)	Flow (MGD)
	< QL	1.26	5.60
Last Quarter Average: Effluent: Outfall 201 February 2008	BOD ₅ (mg/l)	TSS (mg/l)	Flow (MGD)
	63	139	0.240
Data verified in preface:			
Updated?		NO CHANGES?	
Has there been any new construction?		YES	NO
If yes, were the plans and specifications approved?		YES	NO
DEQ approval date:			
COPIES TO: (x) DEQ/TRO; (x) DEQ/OWCP; (x) OWNER; () OPERATOR; () EPA-Region III; () Other:			

PLANT OPERATION AND MAINTENANCE

1.	Class/number of licensed operators:	I	0	II	1	III	0	IV	0	Trainee	2	
2.	Hours per day plant manned?	24 hours/day, 7 days/week										
3.	Describe adequacy of staffing	GOOD				AVERAGE				POOR		X
4.	Does the plant have an established program for training personnel								YES	X	NO	
5.	Describe the adequacy of training	GOOD		X		AVERAGE				POOR		
6.	Are preventative maintenance tasks scheduled								YES	X	NO	
7.	Describe the adequacy of maintenance	GOOD		X		AVERAGE				POOR		
8.	Does the plant experience any organic/hydraulic overloading?								YES		NO	X
	If yes, identify cause/impact on plant											
9.	Any bypassing since last inspection?								YES		NO	X
10.	Is the standby electrical generator operational? see comments below.			YES				NO			NA	X
11.	How often is the standby generator exercised?	N/A										
	Power transfer switch?	N/A		ALARM SYSTEM?		N/A						
12.	When was the cross connection last tested on the potable supply?	N/A										
13.	Is the STP alarm system operational?			YES				NO			NA	X
14.	Is sludge disposed in accordance with an approved SMP			YES				NO			NA	X
15.	Is septage received by the facility?								YES		NO	X
	Is septage loading controlled?			YES				NO			NA	X
	Are records maintained?			YES				NO			NA	X

OVERALL APPEARANCE OF FACILITY	GOOD		AVERAGE	X	POOR	
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COMMENTS:	<p>#3. Staffing does meet minimum permit requirements. However, retaining only one licensed operator without another licensed operator for back up purposes is poor practice and heightens the risk of violating permit requirements.</p> <p>#10. A generator is not available on site; though there are back-up systems for pumping wastewater and captured storm water. The back-up systems include diesel power pumps and pneumatic pumps with an air compressor.</p> <p>Sludge is no longer land applied and is belt pressed and sent to a landfill for disposal.</p>
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PLANT RECORDS

WHICH OF THE FOLLOWING RECORDS DOES THE PLANT MAINTAIN?

1.	Operational logs for each process unit	YES	X	NO		NA	
	Instrument maintenance and calibration	YES	X	NO		NA	
	Mechanical equipment maintenance	YES	X	NO		NA	
	Industrial waste contribution (municipal facilities)	YES		NO		NA	X

WHAT DOES THE OPERATIONAL LOG CONTAIN

2.	Visual Observations	X	Flow Measurement	X	Laboratory Results	X
	Process Adjustments	X	Control Calculations	X	Other?	

COMMENTS:

WHAT DO THE MECHANICAL EQUIPMENT RECORDS CONTAIN?

3.					NA	
	MFG. Instructions	X	As Built Plans/specs	X	Spare Parts Inventory	X
	Lube Schedules	X	Other?		Equipment/parts Suppliers	

COMMENTS:

WHAT DO INDUSTRIAL WASTE CONTRIBUTION RECORDS CONTAIN? (MUNICIPAL)

4.				NA	X
	Waste Characteristics		Impact on Plant		
	Location and Discharge Types		Other?		

COMMENTS:

WHICH OF THE FOLLOWING RECORDS ARE AT THE PLANT & AVAILABLE TO PERSONNEL?

	Equipment Maintenance Records		X	Industrial Contributor Records					
5.	Operational Log	X	Sampling/testing Records		X	Instrumentation Records	X		
6.	Records not normally available to personnel at their location:				N/A				
7.	Were the records reviewed during the inspection?					YES	X	NO	
8.	Are records adequate and the O&M manual current? see comments below					YES	X	NO	
9.	Are the records maintained for the required 3-year time period					YES	X	NO	

COMMENTS: #8. The O & M manual, dated October 2004, is in the process of being updated currently and is projected to be completed by May 15, 2008. However, when the tall oil plant shuts down (projected to be May 31st), the manual will need to reflect this change and its effects at the plant.

The Storm Water Pollution Prevention Plan (SWP3), dated June 2007, will also need to be updated when the tall oil plant shuts down. See Inspection Comments section for further discussion pertaining to the SWP3.

SAMPLING

1.	Are sampling locations capable of providing representative samples?	YES	<input checked="" type="checkbox"/>	NO	
2.	Do sample types correspond to VPDES permit requirements?	YES	<input checked="" type="checkbox"/>	NO	
3.	Do sampling frequencies correspond to VPDES permit requirements?	YES	<input checked="" type="checkbox"/>	NO	
4.	Does plant maintain required records of sampling?	YES	<input checked="" type="checkbox"/>	NO	
5.	Are composite samples collected in proportion to flow?	YES	<input checked="" type="checkbox"/>	NO	NA
6.	Are composite samples refrigerated during collection?	YES	<input checked="" type="checkbox"/>	NO	NA
7.	Does the plant run operational control tests?	YES	<input checked="" type="checkbox"/>	NO	NA

COMMENTS:

TESTING

1.	Who performs the testing?	Plant	<input checked="" type="checkbox"/>	Central Lab		Commercial Lab	<input checked="" type="checkbox"/>
	Name: Universal Laboratories, Hampton, VA						

IF THE PLANT PERFORMS ANY TESTING, PLEASE COMPLETE QUESTIONS 2-4

2.	Which total residual chlorine method is used?	N/A			
3.	Does plant appear to have sufficient equipment to perform required tests?	YES	<input checked="" type="checkbox"/>	NO	
4.	Does testing equipment appear to be clean and/or operable?	YES	<input checked="" type="checkbox"/>	NO	

COMMENTS: See laboratory report for further discussion.

FOR INDUSTRIAL FACILITIES WITH TECHNOLOGY BASED LIMITS ONLY

1.	Is the production process as described in permit application? If no, describe changes in comments section.	YES		NO		NA	<input checked="" type="checkbox"/>
2.	Are products/production rates as described in the permit application? If no list differences in comments section.	YES		NO		NA	<input checked="" type="checkbox"/>
3.	Has the Agency been notified of the changes and their impact on plant effluent? Date agency notified:	YES		NO		NA	<input checked="" type="checkbox"/>

COMMENTS:

PROBLEMS IDENTIFIED AT LAST INSPECTION:		CORRECTED	NOT CORRECTED
	Conduct site inspections specific for storm water pollution prevention.	X	
	Conduct Comprehensive Site Compliance Evaluation.	X	

SUMMARY

INSPECTION COMMENTS:

The Hercules facility is made up of multiple plants that coexist on the same site. The three companies involved are Hercules, GEO Specialty Chemicals, and Eastman.

The Eastman Tall Oil Plant is preparing to close and is scheduled for complete closure by the end of May 2008. This date could be postponed slightly depending on the amount of materials remaining in the plant. The closure of the tall oil process should considerably decrease the flow into the waste water treatment plant as well as decrease the solids (oil) entering the treatment plant. The use of the "carwash" should also be greatly decreased or potentially eliminated due to the reduction in rail cars to and from the facility.

A brief site survey was conducted during the inspection. The majority of the site was located within bermed containment and spill kits were placed throughout the entire facility. Oil absorbent booms were secured in multiple locations along the ditch near the office and along the ditch that led to outfall 002. Each outfall was observed. Outfall 003 had no discharge while 201, 002, and 902 did have a discharge at the time of the inspection. Algae appears to be an issue for the facility at outfall 201.

During the site survey, an area adjacent to the rail tracks appeared to be a storage area for scaffolding pieces and empty drums. Although the drums in this area were capped, a few were lying on their side and all of them had been placed directly on the ground. The buckets containing scaffolding clamps and brackets were rusting on top of the pallets and the rust was collecting on the ground. Changes should be implemented in this area in order to improve the materials management and good housekeeping practices.

The waste water treatment plant was also observed during the inspection and appears to be continuing to improve its treatment processes and the plant effluent.

The Storm Water Pollution Prevention Plan (SWP3), revised June 2007, was available and reviewed on site. The plan included items required by the permit and was mostly current. However, the list of spills and leaks did not contain any spills that had occurred in 2007 and needed to be updated.

Corresponding records were also available and reviewed. A Non-Storm Water Discharge Assessment and Certification was documented in November 2007 and included visual inspections of outfalls 003 and 902(002). Training was last performed May 2007 to discuss storm water pollution prevention and spill response among other topics. A Comprehensive Site Compliance Evaluation (CSCE) was conducted in November 2007 and documented compliance at outfalls 003 and 902. This evaluation should also include inspection of the scaffolding storage area adjacent to the tracks because storm water runoff from this area could potentially affect outfall 003. In this case, the CSCE should have noted the drums lying on the ground and rusted buckets.

Routine Site Inspections are performed in a multitude of ways at the facility. Individual plant personnel conduct inspections of each specific plant area in addition to the inspections of the entire facility performed by Hercules environmental staff. During all of these inspections (daily, weekly, monthly, and quarterly), the following items are inspected: tanks, secondary containments, spills kits, valves, outfalls, diking, and storm water conveyances. Good housekeeping is also checked during each plant's safety inspection. The routine site inspections should also include storage areas such as the one noted with scaffolding materials and drums. Some of the quarterly inspections for the Vul-Cup area secondary containment noted on the annual quarter when the inspection was performed and should note the actual date of the inspection. Due to the massive quantity of inspections documented, only representative samples have been included with this report.

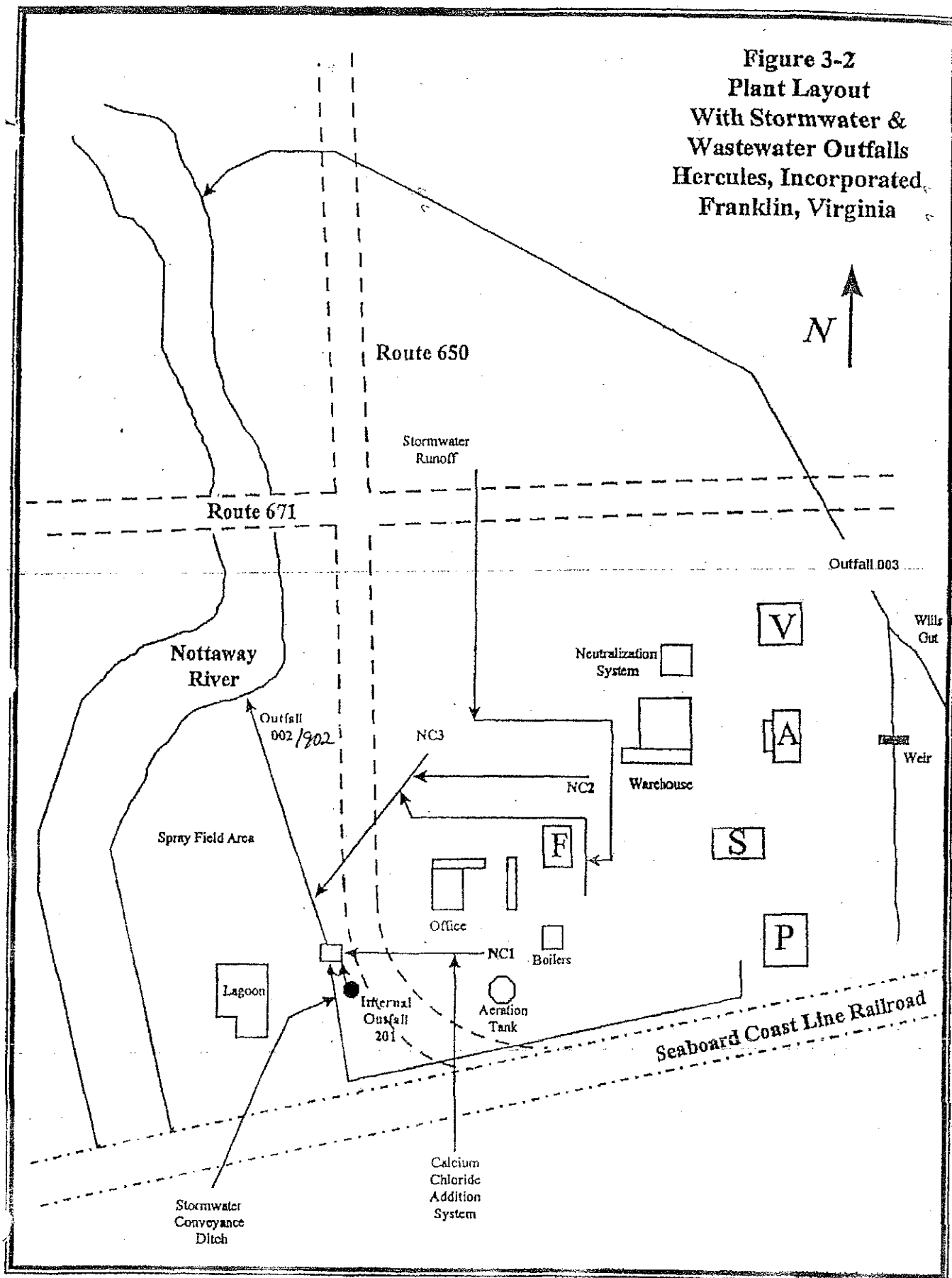
Quarterly Visual Exams of Storm Water Quality are performed by the facility but are not properly completed according to permit requirements. A visual was conducted at outfall 003 on 1/17/08 but a discharge was not observed. No discharge was recorded, but some sections of the qualitative monitoring report were filled out

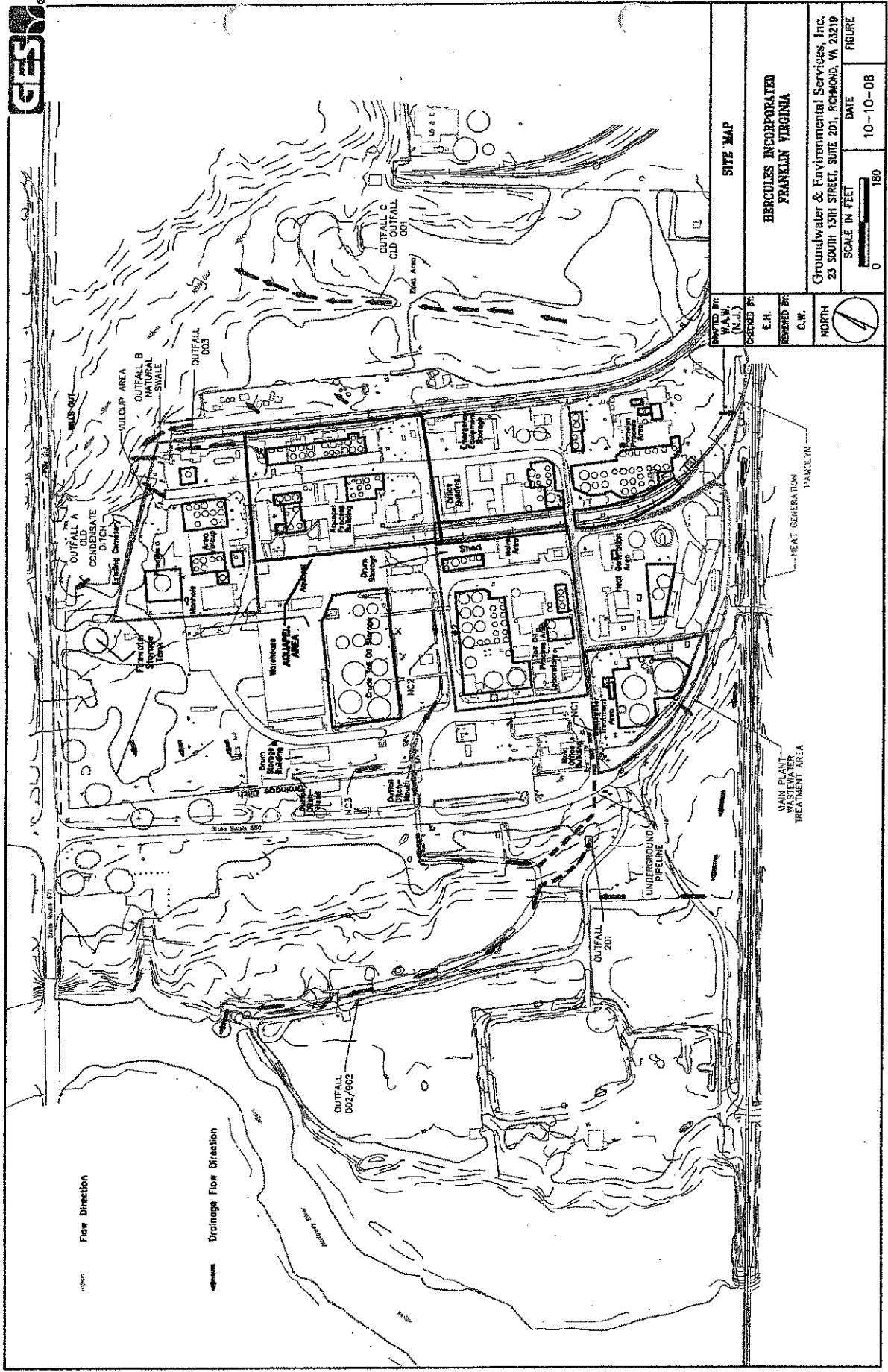
	without a discharge viewed to provide the data. (i.e. Odor was recorded as "none" and the questions for presence of foam or oil sheen were both answered with no.) Rain data included with the visuals provided several occasions in February when there had been a rainfall during which outfall 003 was checked and a discharge had occurred during at least two of them. However, a qualitative report was not used to document the discharge observed during those events. An outfall must be visually checked for a discharge multiple times during every qualifying rain event that occurs during a calendar quarter before "no discharge" can be documented for the Quarterly Visual Exam. It is not required to perform monitoring at every outfall during the same storm event, but conducting as much monitoring/sampling as is possible during the earliest qualifying storm event is always recommended.
	The entire facility was found to be clean and well maintained.
COMPLIANCE RECOMMENDATIONS FOR ACTION:	
	Update SWP3 – spills and leaks section.
	Include the outside storage area adjacent to the rail tracks in routine site inspections and properly date inspection records.
	Perform Quarterly Visuals (qualitative monitoring) per the permit requirements and document each time an outfall is observed without a discharge during a qualifying rain event.
	After the Tall Oil Processing is shut down completely, review and revise the SWP3, the O & M manual, and inspection records appropriately.

ATTACHMENT 2

DISCHARGE LOCATION/TOPOGRAPHIC MAP

Figure 3-2
Plant Layout
With Stormwater &
Wastewater Outfalls
Hercules, Incorporated,
Franklin, Virginia





SITE MAP

HERCULES INCORPORATED
FRANKLIN VIRGINIA

Groundwater & Environmental Services, Inc.
23 SOUTH 13TH STREET, SUITE 201, RICHMOND, VA 23219

SCALE IN FEET
0 100 150 180

DATE 10-10-08
FIGURE

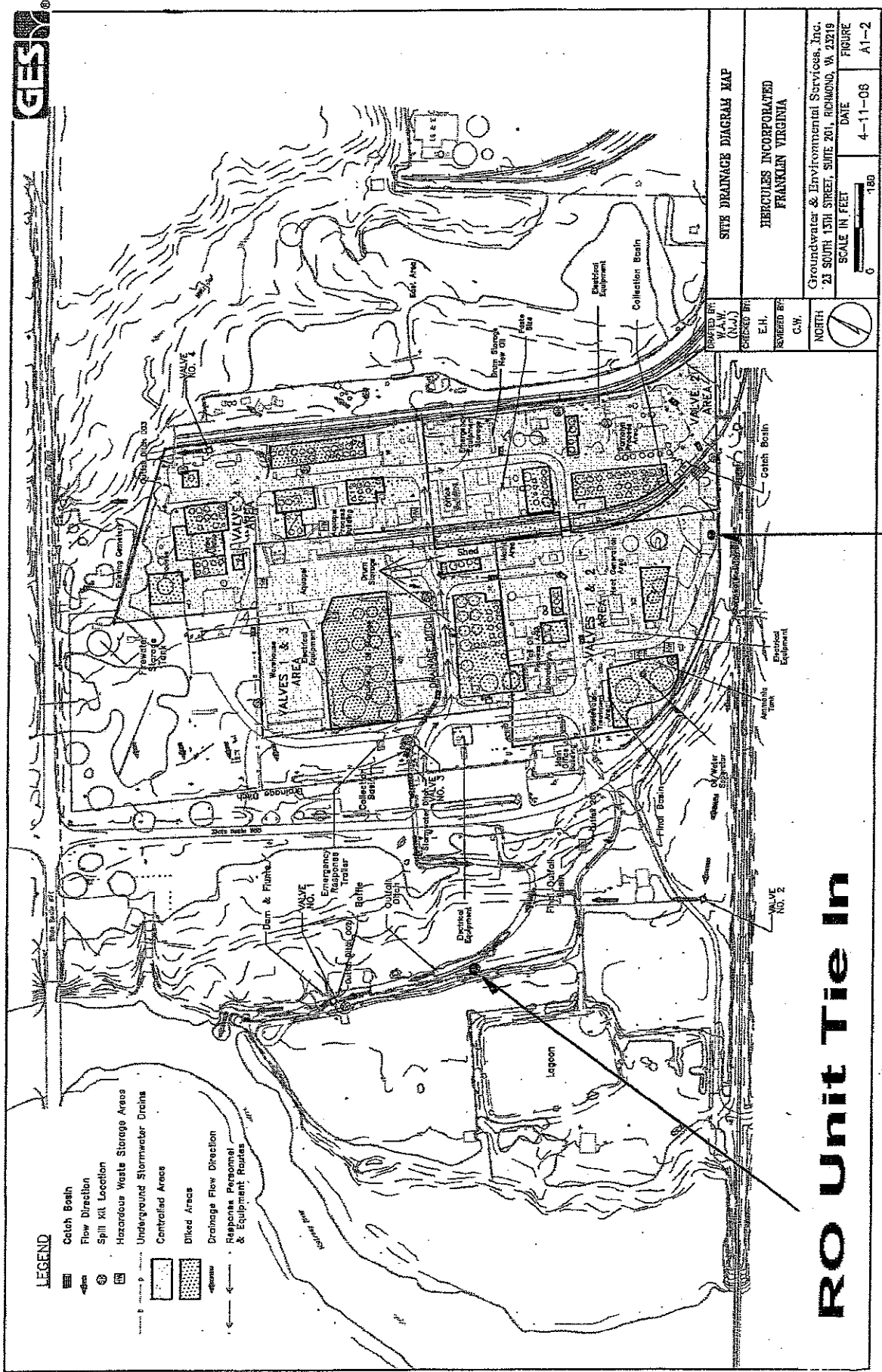


DRAWN BY
W.A.W.
(N.J.)

CHECKED BY
E.H.

REMOVED BY
C.W.

NORTH

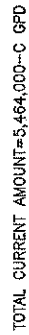
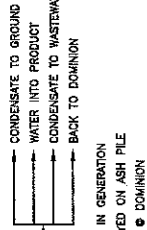


RO Unit Tie In

RO Unit Location

ATTACHMENT 3

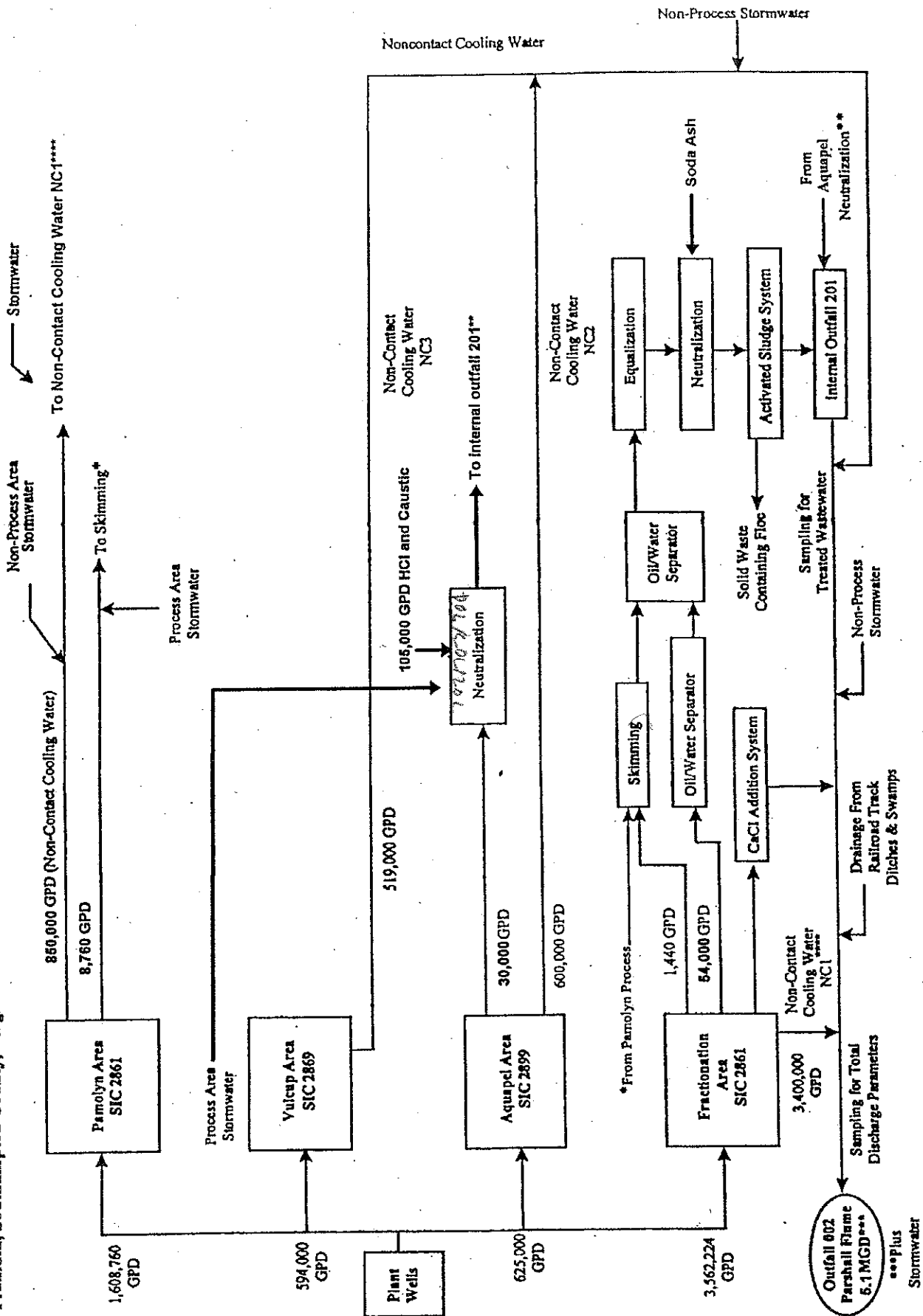
SCHEMATIC/PLANS & SPECS/SITE MAP/
WATER BALANCE



(FI) FLOW INDICATOR METER
 (FOR) FLOW TOTALIZATION RECORDER METER
 (FOIR) FLOW TOTALIZATION INDICATOR RECORDER METER

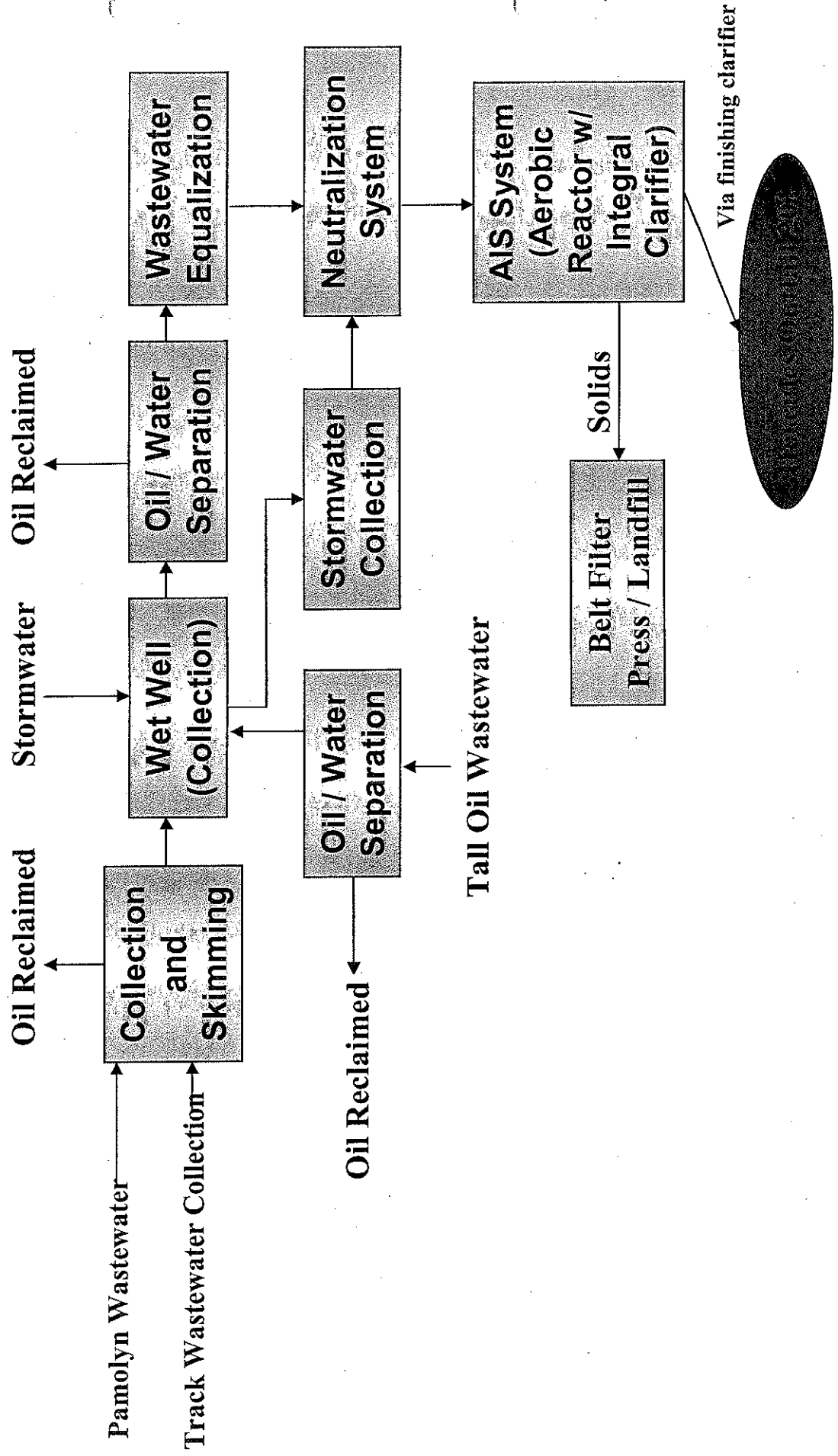
DRAFTED BY: W.A.W. (N.J.)	FLOW BALANCE	
CHECKED BY: J.E.H.	HERCULES INCORPORATED FRANKLIN VIRGINIA	
REAMEND BY: C.C.W.	Groundwater & Environmental Services, Inc. 23 SOUTH 13TH STREET, SUITE 201, RICHMOND, VA 23219	
	DATE	FIGURE 10-17-06

Schematic of Water Flow
Hercules, Incorporated
Franklin, Southampton County, Virginia



Hercules / Eastman / GEO – Franklin, VA

Activated Sludge Wastewater Treatment System



ATTACHMENT 4


TABLE I - DISCHARGE/OUTFALL DESCRIPTION

EPA I.D. NUMBER (copy from Item 1 of Form 1)

VAD0003122165

Form Approved.
OMB No. 2040-0086.
Approval expires 3-31-98.

Please print or type in the unshaded areas only.

FORM 2C NPDES		 U.S. ENVIRONMENTAL PROTECTION AGENCY APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURE OPERATIONS Consolidated Permits Program					
I. OUTFALL LOCATION							
For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.							
A. OUTFALL NUMBER (list)	B. LATITUDE			C. LONGITUDE			D. RECEIVING WATER (name)
	1. DEG.	2. MIN.	3. SEC.	1. DEG.	2. MIN.	3. SEC.	
002	N36	39	076	W77	00	138	Nottoway River
201	N36	39	015	W77	00	035	Nottoway River (via Outfall 002)
II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES							
<p>A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.</p> <p>B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.</p>							
1. OUTFALL NO. (list)	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT				
	a. OPERATION (list)	b. AVERAGE FLOW (include units)	a. DESCRIPTION		b. LIST CODES FROM TABLE 2C-1		
NC1	Pamolyn Non-Contact Cooling Water, SIC Code 2861	1,080,000 gpd	Non-Contact Cooling Water; Calcium Chloride is added to the treatment system at this point.		4A		
			Discharged to 002.				
NC2	Aquapel Non-Contact Cooling Water, SIC Code 2899	1,780,000 gpd	Non-Contact Cooling Water, not treated.		4A		
			Discharged to 002.				
NC3	Vulcup Non-Contact Cooling Water, SIC Code 2969	1,310,000 gpd	Non-Contact Cooling Water, not treated.		4A		
			Discharged to 002.				
201	Neutralized wastewater	135,000 gpd	See attachment 3510-2C-1				
	Pamolyn-T/C	10,200 gpd	See attachment 3510-2C-1				
	Power Area	116,000 gpd	See attachment 3510-2C-1				
002/902	Stormwater discharge	Variable	Uncontaminated stormwater		4A		
002	Total outlined above	5,609,200 gpd					
OFFICIAL USE ONLY (effluent guidelines sub-categories)							

Form 2C NPDES	EPA	U.S. Environmental Protection Agency Application for Permit to Discharge Wastewater Existing Manufacturing, Commercial, Mining and Silvicultural Operations		
II. Flows, Sources of Pollution, and Treatment Technologies				
Outfalling (list)	Operation(s) Contributing Flow		Treatment	
	Operation	Average Flow		Codes from Table 2C-1
201/002	Aquapel Process SIC Code 2899	135,000 gpd	Wastewater is partially neutralized in a 7,400 gallon basin (retention time 0.9 hr) and pumped to a neutralization system consisting of a 20,000 gal tank for HCl storage and/or pretreatment and a 750 gallon tank & a 3,000 gal tank in series to Outfall 201.	2K 4A
201/002	Pamolyn Process SIC Code 2861 Tank Car Unloading Area SIC Code 2861	8,800 gpd 1,400 gpd	Light oil is skimmed from wastewater in a 60 Mgal basin (r.t. = 6 days), pumped to an oil/water separator where additional oil is removed before flowing to a 624,000 gal Stormwater tank and/or a 250,000 gallon equalization tank. It is neutralized in-line using soda ash, pumped to a 225,000 gal Aeration Tank with integral clarifier (r.t. 5 days), then to a 20,000 gal polishing clarifier and discharged to Outfall 201. Waste sludge is de-watered on a belt filter press for disposal at a landfill. Purge water from groundwater sampling activities. Groundwater from dewatering activities.	1H 2K 3A 1U 4A 5C 5Q
201/002	Power Area SIC Code 2861	116,000 gpd	Non-Contact Cooling Water; not treated. Discharged to 201 then 002.	4A
002	Power Area SIC Code 2861	90,000 gpd	Reverse Osmosis unit reject water discharge.	4A
201/002 or 002	Wastewater Holding Lagoon, Sludge Pit Remediation Water	Flow as necessary to dewater the wastewater holding lagoon and sludge pits during remediation.	Treatment as necessary to meet discharge limits	4A

FORM
2F
NPDES



U.S. Environmental Protection Agency
Washington, DC 20460

Application for Permit to Discharge Storm Water Discharges Associated with Industrial Activity

Public reporting burden for this application is estimated to average 28.6 hours per application, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate, any other aspect of this collection of information, or suggestions for improving this form, including suggestions which may increase or reduce this burden to: Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW, Washington, DC 20460, or Director, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

004
005
006

A. Are you now required by any Federal, State, or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

[illegible]

B: You may attach additional sheets describing any additional water pollution (or other environmental projects which may affect your discharges) you now have under way or which you plan. Indicate whether each program is now under way or planned, and indicate your actual or planned schedules for construction.

Attach a site map showing topography (or indicating the outline of drainage areas served by the outfalls(s) covered in the application if a topographic map is unavailable) depicting the facility including: each of its intake and discharge structures; the drainage area of each storm water outfall; paved areas and buildings within the drainage area of each storm water outfall, each known past or present areas used for outdoor storage of disposal of significant materials, each existing structural control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied; each of its hazardous waste treatment, storage or disposal units (including each area not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34); each well where fluids from the facility are injected underground; springs, and other surface water bodies which received storm water discharges from the facility.

ATTACHMENT 5

TABLE II - EFFLUENT MONITORING/LIMITATIONS

TABLE II - INDUSTRIAL EFFLUENT LIMITATIONS/MONITORING

OUTFALL # 002

Outfall Description: combined process and non contact cooling water

SIC CODE: 2861, 2869, 2899

(x) Final Limits () Interim Limits Effective Dates - From: Modification To: Expiration

PARAMETER & UNITS	BASIS FOR LIMITS	MULTIPLIER OR PRODUCTION	EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS [a]	
			MONTHLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Flow (MGD)	3		NL	NA	NL	continuous	Measured
pH (S.U.)	2		NA	6.0	9.0	1/Week	Grab
Temperature (°C)	3		NL	NA	32	1/Week	I.S.
T. Phosphorus (mg/l)	3		2.0	NA	NA	1/Week	24 HC
T. Phosphorus (lb/d)	3		97	NA	NA	1/Week	24 HC
T. Nitrogen (mg/l)	3		NL	NA	NA	1/Month	24 HC
T. Nitrogen (lb/d)	3		NL	NA	NA	1/Month	24 HC
Effluent Hardness (mg/l)	3		NL	NA	NA	1/Month	24 HC
BOD5 (mg/l) [b]	3		NL	NA	NA	1/Month	24 HC
Total Recoverable Copper (ug/l) [c]	2		NL	NA	52	1/Month	24 HC
Hexavalent Chromium (ug/l)	2		NL	NA	16	1/3 Months	Grab

TABLE II - INDUSTRIAL EFFLUENT LIMITATIONS/MONITORING (continued)

OUTFALL # 002

Outfall Description: combined process and non contact cooling water, reverse osmosis system water
 SIC CODE: 2861, 2869, 2899

(x) Final Limits () Interim Limits Effective Dates - From: Modification To: Expiration

PARAMETER & UNITS	BASIS FOR LIMITS	MULTIPLIER OR PRODUCTION	EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS [a]	
			MONTHLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Dissolved Oxygen (mg/l)	2		NA	4.0	NA	1/Month	Grab
Acute WET (TU _a) [d]	2		NA	NA	1.0	1/3 Months	24 HC
Chronic WET (Tu _c) [d]	2		NA	NA	6.25	1/3 Months	24 HC

NA = NOT APPLICABLE; NL = NO LIMIT, MONITORING REQUIREMENT ONLY

I.S. = Immersion Stabilization

1/3 Months = In accordance with the following schedule: 1st quarter (January 1 - March 31); 2nd quarter (April 1 - June 30); 3rd quarter (July 1 - September 30); 4th quarter (October 1 - December 31).

[a] Sample shall be taken at Parshall flume for all parameters listed above, except temperature. Temperature shall be measured at a point eleven (11) feet downstream of the Parshall flume.

[b] See Parts I.C.6. and I.C.7. for quantification levels and reporting requirements, respectively.

[c] See Part I.C.9.

[d] See Part I.B.

The bases for the limitations codes are:

1. Technology (e.g., Federal Effluent Guidelines)
2. Water Quality Standards (9 VAC 25-260 et. seq.)
3. Best Professional Judgment

TABLE II - INDUSTRIAL EFFLUENT LIMITATIONS/MONITORING

OUTFALL #: 201

Outfall Description: combined treated waste basin

SIC CODE: 2861, 2869, 2899

(X) Final Limits () Interim Limits Effective Dates - From: Modification To: Expiration

PARAMETER & UNITS	BASIS FOR LIMITS	MULTIPLIER OR PRODUCTION	EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS [a]	
			MONTHLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Flow (MGD)	3		NL	NA	NL	Continuous	Measured
BOD5 (mg/l)	1		157	NA	296	1/Week	24 HC
BOD5 (lb/day)	1		176.65	NA	333.37	1/Week	24 HC
Total Suspended Solids (mg/l)	1		69	NA	201	1/Week	24 HC
Total Suspended Solids (lb/day)	1		78.12	NA	226.83	1/Week	24 HC

NA = NOT APPLICABLE; NL = NO LIMIT, MONITORING REQUIREMENT ONLY

[a] Outfall 201 shall be sampled from the combined waste basin (small weir) prior to mixing with other non-process flow.

The bases for the limitations codes are:

1. Technology (e.g., Federal Effluent Guidelines)
2. Water Quality Standards (9 VAC 25-260 et. seq.)
3. Best Professional Judgment

TABLE II - INDUSTRIAL EFFLUENT LIMITATIONS/MONITORING

OUTFALL #: 902

Outfall Description: wet weather discharge at outfall 002

SIC CODE: 2861, 2869, 2899

Note - This outfall represents wet weather monitoring for outfall 002 to incorporate storm water in the effluent sampling event

(X) Final Limits () Interim Limits		Effective Dates -		From: Issuance		To: Expiration	
PARAMETER & UNITS	BASIS FOR LIMITS	MULTIPLIER OR PRODUCTION	EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS [a]	
			MONTHLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Flow (MG)	3		NA	NA	NL	1/Year	Estimate [b]
pH (s.u.)	3		NA	6.0	9.0	1/Year	Grab
BOD5 (mg/l) [c]	3		NA	NA	NL	1/Year	Grab
Total Suspended Solids (mg/l) [c]	3		NA	NA	NL	1/Year	Grab
Total Petroleum Hydrocarbons (mg/l) [c]	3		NA	NA	NL	1/Year	Grab
Chemical Oxygen Demand (mg/l) [c]	3		NA	NA	NL	1/Year	Grab

NA = NOT APPLICABLE; NL = NO LIMIT, MONITORING REQUIREMENT ONLY

1/Year = January 1 - December 31.

[a] See Part I.D. for additional storm water sampling and reporting requirements.

[b] Estimate of the total volume of the discharge during the storm event.

[c] See Parts I.C.6. and I.C.7. for quantification levels and reporting requirements, respectively.

TABLE II - INDUSTRIAL EFFLUENT LIMITATIONS/MONITORING (CONTINUED)

OUTFALL #: 902

Outfall Description: wet weather discharge at outfall 002

SIC CODE: 2861, 2869, 2899

Note - This outfall represents wet weather monitoring for outfall 002 to incorporate storm water in the effluent sampling event

The grab samples shall be taken within the first 30 minutes of the discharge. If this is not practicable, it shall be taken within the first hour of the discharge.

2. All samples shall be collected from the discharge resulting from a measurable storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event.

The bases for the limitations codes are:

1. Technology (e.g., Federal Effluent Guidelines)
2. Water Quality Standards (9 VAC 25-260 et. seq.)
3. Best Professional Judgment

TABLE II - INDUSTRIAL EFFLUENT LIMITATIONS/MONITORING

OUTFALL #: 003, 004, 005, 006 (004-old condensate ditch; 005-natural swale; 006-old outfall 001)
 Outfall Description: Storm water runoff from regulated industrial areas
 SIC CODE: 2861, 2869, 2899

(X) Final Limits () Interim Limits Effective Dates - From: Modification To: Expiration

PARAMETER & UNITS	BASIS FOR LIMITS	MULTIPLIER OR PRODUCTION	EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS [a]	
			MONTHLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Flow (MG)	3		NA	NA	NL	1/Year	Estimate [b]
pH (s.u.)	3		NA	NL	NL	1/Year	Grab
Total Suspended Solids (mg/l) [c]	3		NA	NA	NL	1/Year	Grab
TPH (mg/l) [c]	3		NA	NA	NL	1/Year	Grab
Chemical Oxygen Demand (mg/l) [c]	3		NA	NA	NL	1/Year	Grab

NA = NOT APPLICABLE; NL = NO LIMIT, MONITORING REQUIREMENT ONLY

1/Year = January 1 - December 31.

[a] See Part I.D. for additional storm water sampling and reporting requirements.

[b] Estimate of the total volume of the discharge during the storm event.

[c] See Parts I.C.6. and I.C.7. for quantification levels and reporting requirements, respectively.

The grab samples shall be taken within the first 30 minutes of the discharge. If this is not practicable, it shall be taken within the first hour of the discharge.

TABLE II - INDUSTRIAL EFFLUENT LIMITATIONS/MONITORING

OUTFALL #: 003, 004, 005, 006 (004-old condensate ditch; 005-natural swale; 006-old outfall 001)

Outfall Description: Storm water runoff from regulated industrial areas

SIC CODE: 2861, 2869, 2899

2. All samples shall be collected from the discharge resulting from a measurable storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event.

The bases for the limitations codes are:

1. Technology (e.g., Federal Effluent Guidelines)
2. Water Quality Standards (9 VAC 25-260 et. seq.)
3. Best Professional Judgment

ATTACHMENT 6

EFFLUENT LIMITATIONS/MONITORING
RATIONALE/SUITABLE DATA/
ANTIDEGRADATION/ANTIBACKSLIDING

Hercules Incorporated
VPDES Permit VA0003433

Hercules Incorporated divested various portions of the facility including the Resins (Tall Oil Fractionation, Pamolyn and Activated Sludge Treatment System) and the Vulcup Assets to Eastman Chemical Resins Incorporated (ECRI) and GEO Specialty Chemicals, Inc. (GEO), respectively during the previous permit process. The Vulcup unit was subsequently purchased by Arkema Inc. in 2009. Hercules entered into a Shared Site Services Agreement with both of these corporations in which Hercules will provide production and ancillary services including all wastewater treatment operations. Hercules will continue to be the owner and operator of the Aquapel Process located at the Franklin facility in addition to all other provisions agreed upon in the Shared Site Services Agreements.

Hercules personnel will continue to operate the wastewater treatment system and all ancillary equipment associated with facility wastewater treatment. Hercules will continue to maintain the VPDES permit and assume responsibility for all the requirements of the permit.

Hercules was acquired by Ashland Chemicals during the current permit term. Ashland is now the parent company, but the permittee has indicated that the permit will still be under the name Hercules and no name or owner changes should be made to the permit.

The facility has shut down the tall oil process, resulting in new effluent guideline limitations. The Aquapel process has been reclassified from Subpart F to Subpart C, resulting in new effluent guideline limitations that were included with the 2010 modification.

The permittee is pursuing a project that will add a reverse osmosis system to the facility; the reject water and occasional backflush water will discharge to the discharge ditch prior to outfall 002. Appropriate limitations and special conditions were added to address this new wastewater source with the 2010 modification.

The facility was under an EPA-lead RCRA corrective action plan that included dewatering of on-site wastewater lagoons and sludge pits. This dewatering went through treatment on site by a portable treatment system and was discharged via internal outfall 202. The internal outfall and associated limits and monitoring were added to the permit with the 2010 modification. The activity has concluded, the lagoons have been backfilled, all dewatering and discharging has concluded and the outfall is no longer needed and is not used. Removal of the internal outfall from the permit is part of the 2011 modification.

The permit modification will also address one change at external outfall 002, the combined discharge of process wastewater, non contact cooling water, RO reject water and storm water. The permittee conducted and submitted the results of a thermal mixing zone study that demonstrated the temperature limit could be

changed from 30 degrees C to 32 degrees C without affecting water quality or exceeding the State's Water Quality Standards for temperature. Therefore, the temperature limit will be changed to 32 degrees C with this modification. Outfalls 201, 902 and 003 are not impacted by this modification, but the rationales for these outfalls are included in this section and are taken from the fact sheet for the reissuance of this permit in 2007. Rationales for specific effluent limitations follow.

Outfall 002

This outfall is the combined external outfall for process wastewater from internal outfall 201, internal outfall 202, storm water, non-contact cooling water and reverse osmosis system reject water. The only parameter changed during the 2009 permit modification is the addition of a minimum dissolved oxygen limit due to the addition of reverse osmosis system discharge to the outfall.

Flow: No limit, sampling type is measured. Sampling frequency is continuous and reporting is monthly, based on the flow and type of operations at the facility. This is a typical requirement for the VPDES industrial permit. The facility uses a flow meter in the discharge canal to measure flow.

pH: Grab sample. Monitoring frequency is once per week, based on flow. Permit limits of 6.0 S.U. minimum, 9.0 S.U. maximum are based on BPJ to protect water quality.

Temperature: Immersion stabilization. Sampling frequency is once per week. Maximum limitation is 32°C. State Water Quality Standards at Regulations 9 VAC 25-260-60 through 9 VAC 25-260-90 address temperature requirements in State waters. In order to comply with these standards, a maximum temperature limit of 30°C for the discharge at outfall 002 was initially been established based on the presence of non-contact cooling water in the discharge. The flow of non contact cooling water is over 90% of the 5 MGD flow from outfall 002 to the receiving stream. A 1 day/10 year low flow in the receiving stream is 18 MGD. The discharge from this plant could make up nearly 30% of the instream flow. Due to the significant contribution of the discharge to the stream and the significant amount of cooling water in the discharge, the maximum temperature limit of 30°C was believed necessary to be protective of aquatic life in the receiving stream. This requirement was based on BPJ to protect water quality and comply with the water quality standards. A subsequent thermal mixing zone study conducted by the permittee and submitted demonstrates that a temperature limit of 32 degrees C will not affect the instream temperature and will not cause or contribute to an exceedance of the water quality standards for temperature. A copy of the study is provided later in this section.

Total

Phosphorus: 24 hr. composite sampling at a frequency of once per week. Monthly average limitations 2.0 mg/l and 97 lb/d are based on 9 VAC 25-40-30, Strategy for Nutrient Enriched Waters Outside of the Chesapeake Bay Watershed.

Total Nitrogen: 24 hr. composite sampling at a frequency of once per month. Monthly average reporting for concentration (mg/l) and mass (lb/d). This will be monitoring only with no limits. This monitoring strategy is based on BPJ using the State's past Policy for Nutrient Enriched Waters and VPDES Permit Manual. The frequency has been reduced from 1/week to 1/month based on BPJ, including a review of previous data, which shows little data variability. A frequency of 1/month is sufficient to obtain any

data needed to evaluate the nutrient load into the receiving stream.

BOD5: 24 hr. composite sampling at a frequency of once per month. Monthly average and daily maximum reporting applies; monitoring only with no limits. This requirement is based on BPJ. This parameter is limited at the internal outfall per Federal Effluent Guidelines.

Chromium VI: Sampling method is grab because this metal is reported in dissolved form. Sampling frequency is quarterly. Daily maximum limit of 16 ug/l. is based on water quality. Previous chemical data indicated the presence of this metal in the effluent with concentration exceeding that of water quality standards. Based on Agency guidance for data reporting using two significant figures, the limit is now expressed in two significant figures instead of four significant figures in the previous permit.

Total Recoverable

Copper: 24 hr. composite sampling at a frequency of 1/month. The calculated daily maximum limit is 9.8 ug/l., based on previous data indicating that numerical limitations are necessary to protect water quality standards. A metals translator study was done for this parameter and has been approved by DEQ. For compliance purposes, the new copper limit is calculated by dividing the existing copper limit by the site specific translator study.

Calculated copper limit
From the
Water Quality Standards: 9.8 ug/l

Site specific metals
translator value: 0.19

Revised copper limit: 51.6 ug/l = 52 ug/l

The revised limit will appear on the Part I.A. limits page in order to facilitate reporting and compliance tracking; and will be included on the DMR. A special condition will further address the translator factor. Any changes to the translator factor will change the revised copper limit. Based on Agency guidance for reporting to two significant figures, the revised copper limit will be expressed as 52 ug/l.

Effluent

Hardness: 24 hr. composite sample at a frequency of once per month. Monthly average reporting only. Previous effluent hardness data, TRE data, and toxicity data indicate that an effluent hardness value of 60 mg/l, supported by TRE work, is sufficient to protect against acute toxicity. As a result, it was recommended that a minimum hardness limitation of 60 mg/l CaCO₃ be established for this discharge. However, this number is not included in the permit as a limit, the

requirement is for reporting only. This is based on BPJ. In order to protect against acute toxicity, an acute WET limit is included in the permit, negating the need for any harness limit.

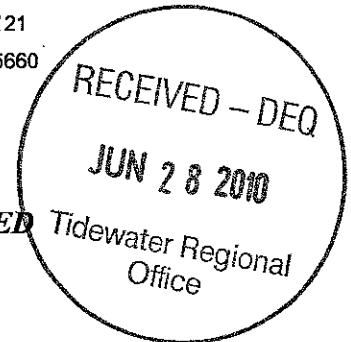
Dissolved Oxygen: This parameter has been added during the 2010 permit modification. The permittee has added a reverse osmosis (RO) water treatment system at the facility to treat water the permittee will use in process and sell to an outside customer. The reject water from the system and occasional backflush from the system will discharge to the drainage ditch leading to outfall 002. No regeneration water will be discharged; regeneration of the units will take place off site by the contract provider. Based on water quality standards at 9 VAC 25-260-50, numerical criteria for dissolved oxygen et al, dissolved oxygen in the Chowan Basin must be maintained at a minimum of 4.0 mg/l. Based on regulation 9 VAC 25-860-10 et seq, the regulation for potable water treatment plants, RO systems have the potential to affect dissolved oxygen. The regulation requires a minimum dissolved oxygen limitation of 4.0 mg/l for discharges from RO units. This is the same requirement the DEQ included in VPDES permits by BPJ prior to the implementation of this regulation and general permit. The fact sheet for the general permit regulation indicates that meeting the dissolved oxygen requirement demonstrates that system is operating correctly and is in good repair. This would indicate that the minimum dissolved oxygen requirement could be placed on the discharge from the system prior to mixing with other flows in the ditch to outfall 002. However the system at this facility will discharge at a rate of approximately 65,000 gallons per day which is a small percentage of the flow in the ditch to outfall 002, and is a relatively minor contribution to the discharge to the receiving stream; therefore, the discharge of this system alone has little potential to greatly affect the D.O. content in the drainage ditch or in the receiving stream. But, the combination of all process and non-process flows to the receiving stream from the combined outfall 002 do have the potential to affect dissolved oxygen in the receiving stream. And, since the D.O. minimum limit is based on water quality, it is more appropriate to apply this limit at the external outfall. Therefore, the D.O. minimum limitation of 4.0 mg/l will be placed on the external outfall to protect water quality and aquatic organisms in the receiving stream.

Whole Effluent Toxicity: See attachment 8.

27123 Shady Brook Trail
Courtland, VA 23837
Tel: 757-562-3121
Fax: 757-562-5660

June 24, 2010

CERTIFIED MAIL RETURN RECEIPT REQUESTED
(7008 3230 0002 9759 8564)



Mr. Mark H. Sauer
Water Permits Engineer – Technical Coordinator
Virginia DEQ – Tidewater Regional Office
5636 Southern Boulevard
Virginia Beach, Virginia 23462

Re: Permit No. VA0003433
Temperature Study/Request for Increase

Dear Mr. Sauer;

Enclosed please find the required information for a temperature study that was conducted to support a request for increasing the wastewater discharge temperature from the Hercules – Franklin Plant under the VPDES Permit listed above. The information was compiled by One Environmental Group and is being presented to the agency to support the request for a temperature increase.

If you should have any questions pertaining to this issue or require additional information please feel free to contact me via telephone at 757-562-3121 ext. 176 or via e-Mail at smmaconaghy@ashland.com. You may also contact Ms. Cathy Warner P.E., D.E.E. at One Environmental Group via telephone at 804-514-6365 or via e-Mail at cwarner@oneenv.com.

Sincerely,

A handwritten signature in black ink that reads "Sean M. Maconaghy".

Sean M. Maconaghy
EHS Manager
Hercules - Franklin



June 22, 2010

Mr. Mark Sauer
Virginia Department of Environmental Quality
5636 Southern Boulevard
Virginia Beach, VA 23462

Re: VPDES Permit Temperature Limit
Ashland Hercules Water Technologies
Franklin, Virginia
VA0003433

Dear Mr. Sauer,

The purpose of this letter is to request that the Virginia Pollution Discharge Elimination System (VPDES) permit for the Ashland Hercules Water Technologies Facility in Franklin, Virginia be revised to increase the temperature limit of the wastewater discharge. This request was originally made in the cover letter for the VPDES permit renewal (October 2006). The temperature limit was further discussed in a meeting at the Virginia Department of Environmental Quality (DEQ) office on December 17, 2008. The original submission included river and discharge temperature data collected on August 9, 2006. During the December 17, 2008 meeting, DEQ requested that river temperature data be collected for the other three quarters of the year. This letter is to present the four quarters of river data collected and to request an increase in temperature limit.

The current VPDES permit temperature limit for Outfall 002 is 30 C as measured on a weekly basis. The water quality standards for the Nottoway River are 32 C and the basis for the 30 C temperature limit is Best Engineering Judgment (BEJ).

Study Methods

The study plan was to measure the effluent from Outfall 002 to document temperature mixing in the Nottoway River until the effluent parameters were stable across the River and a stable temperature was achieved. Measuring of the temperature stabilization was completed on four separate occasions; these represent four different seasonal temperature conditions.

1 st Quarter	March 18, 2009
2 nd Quarter	June 11, 2009
3 rd Quarter	August 9, 2006
4 th Quarter	December 1, 2009

Temperature measurements were taken with a YSI 55 or 63 temperature meter which was calibrated in accordance with manufacturer's instructions prior to use. The temperature probe was attached to a pole with depth increments marked to the one foot interval. During the study, temperature measurements were able to be taken from discrete River depths over the entire water column. The sampling locations were recorded with a Tremble Backpack or Trimble GeoExplorer handheld global positioning system (GPS) unit. During each event, the GPS was also used to document three existing groundwater monitoring wells which are tied into the plant coordinate system with known coordinates. This allowed the river sampling points to be plotted accurately onto the map of the Nottoway River.

The temperature plume was traced until the change in temperature was no longer present. Temperature measurements were also taken within the previously defined mixing zone to confirm that the temperature change was contained within the mixing zone.

Results

Temperature results are presented for the four events in Figures 1 through 4. Tables with the temperature at each interval are presented in Tables 1 through 4.

March 2009- Figure 1 plots the temperature of the effluent and Nottoway River. The maximum temperature for each point was used in Figure 1. Table 1 presents the data for the 21 sampling locations. The temperature of the effluent was 12.0 C and the temperature of the river was 8.4 C. As can be seen from Figure 1, the effluent did not raise the temperature of the Nottoway River and the only location of raised temperature was in the outfall ditch prior to discharge to the Nottoway.

June 2009- Figure 2 plots the temperature of the effluent and Nottoway River. The maximum temperature for each point was used in Figure 2. Table 2 presents the data for the 24 sampling locations. The temperature of the effluent was 23.3 C and the temperature of the river was 23.0 C. As can be seen from Figure 2, the effluent did not raise the temperature of the Nottoway River and the only location of raised temperature was in the outfall ditch prior to discharge to the Nottoway. These results are consistent with the March 2009 results.

August 2006- The August 2006 event was conducted during a period of low river flow and represents worst case conditions. Figure 3 plots the temperature of the effluent at 5 feet below the river surface. This interval was selected because it was considered most representative of the water column. The data is presented in Table 3. The temperature

of the effluent was 29.3 C and the temperature of the river was 28.9 C. As can be seen from Figure 3, the effluent raised the temperature of the Nottoway River from the Outfall ditch. The area of elevated temperature is less than one quarter of the river width for approximately 180 feet downriver. The elevated temperature was close to the east bank and raised the small section of river to 29.0 – 29.6 C. The temperature of the Nottoway River upgradient of the Facility was 28.9 C. Therefore, the effluent raised a small portion of the Nottoway River by 0.1 to 0.7-C. The configuration of the temperature plume is significantly smaller and in the same location as the conductivity plume from the May 2000 mixing zone work.

December 2009- Figure 4 plots the temperature of the effluent and Nottoway River. The maximum temperature for each point was used in Figure 4. Table 4 presents the data for the 22 sampling locations. The temperature of the effluent was 19.0 C and the temperature of the river was 9.2 C. As can be seen from Figure 4, the effluent did not raise the temperature of the Nottoway River and the only location of raised temperature was in the outfall ditch prior to discharge to the Nottoway. These results are consistent with both the March and June 2009 results.

As can be seen from the figures and tables, the discharge from Outfall 002 does not have any impact the Nottoway during the majority of the year and has a very small impact of raising the temperature by 0.1 to 0.7 C during the period of low river flow. The total temperature impact area is substantially less than the mixing zone area. It is clear that the increase in the effluent temperature will not result in a violation of the water quality standard of 32 C for the Nottoway River.

Anti-Backsliding Evaluation

In 9 VAC-25-31-220.L.2 the regulations allow for permits to be reissued with less stringent effluent limitations as long as certain exceptions are met. This evaluation meets the exception requirements for the following reason.

1. b(1) - "Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance".

The new information that is available is the quarterly temperature data information provided in this letter.

The 1996 VPDES Program Fact Sheet Attachment 4 outlined the basis for the current temperature limit as "believed to be protective of aquatic life in the receiving stream". It is also noted that the limit is based on BEJ to protect water quality. The new information presented in this letter indicates that the temperature in Outfall 002 does not affect the Nottoway River and therefore an increased in discharge temperature would still allow for the discharge to meet the BEJ objectives. An increase in the VPDES discharge permit

Mr. Mark Sauer
June 22, 2010
Page 4 of 4

limit for Outfall 002 from 30 C to 34 C is respectfully requested based on the information contained within this letter.

We appreciate your consideration of this request to increase the temperature limit in the discharge. We are available to provide further information and clarification, if necessary. We look forward to your response. Please let me know if you have any questions (804-514-6365).

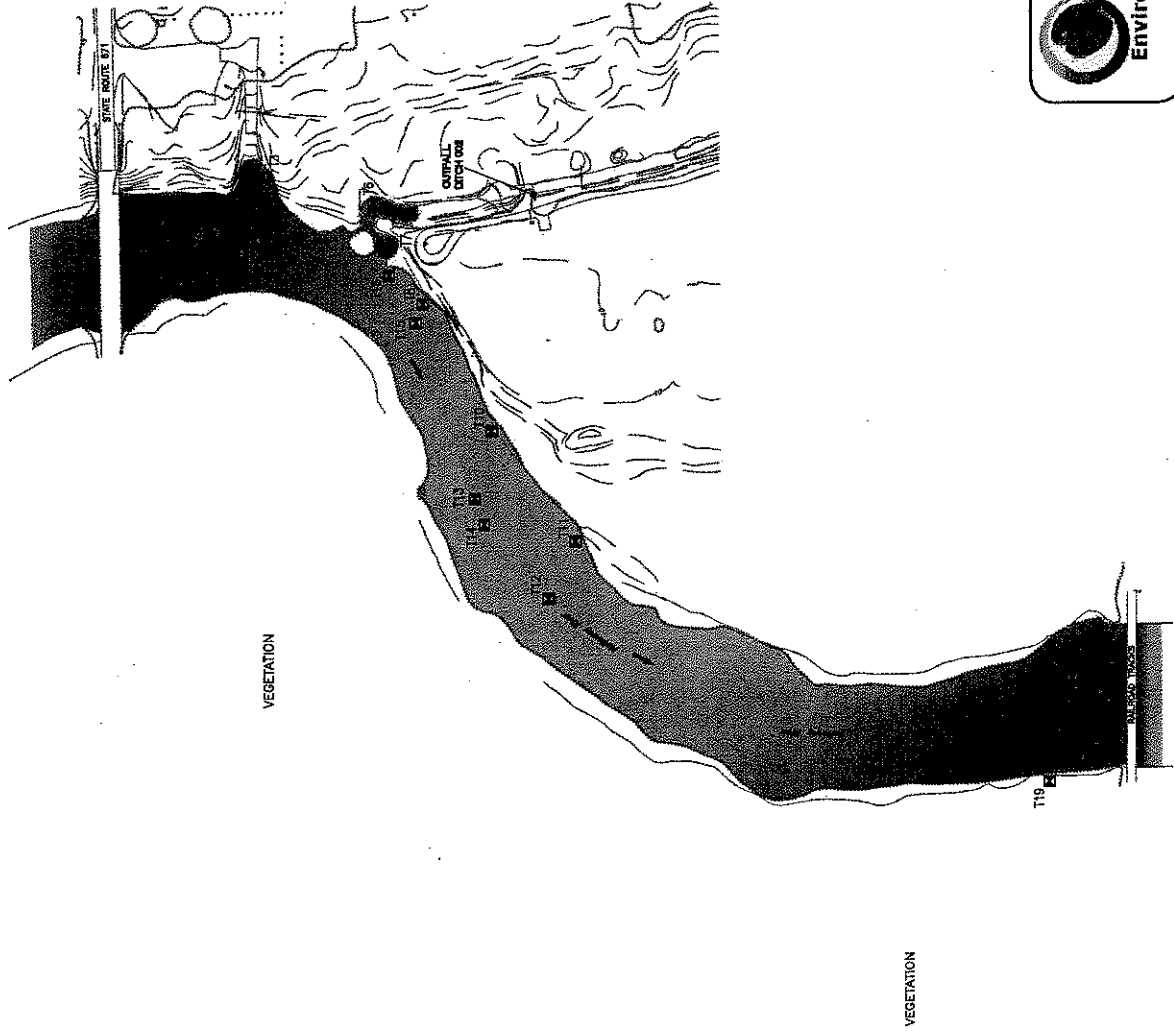
Sincerely,

Catherine C. Warner

Catherine C. Warner, P.E., D.E.E.
Principal
ONE Environmental Group, LLC
1915 Huguenot Road, Suite 103
Richmond, Virginia 23235
cwarner@onenev.com

Attachments

cc: Sean Maconaghy – Ashland Hercules Water Technologies



LEGEND

RIVER TEMPERATURE STUDY POINT
TAKEN ON 3-18-09

8.0-9.0°C

>9.0°C

NOTE:

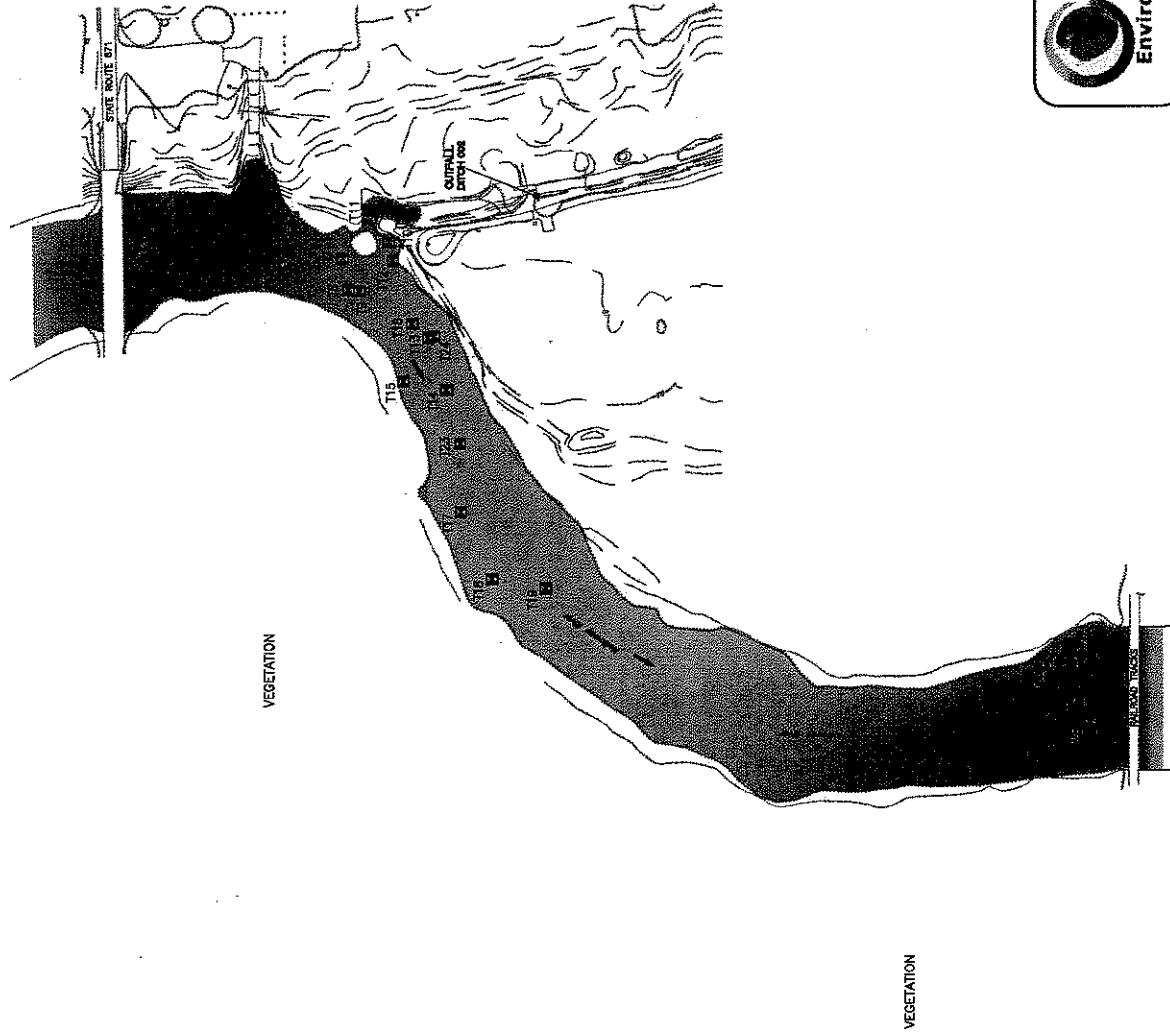
EFFLUENT AT T6 LOCATION
RECORDED AT 3 FEET BELOW
RIVER SURFACE




**FRANKLIN RIVER
TEMPERATURE STUDY
MARCH 18, 2009**

HERCULES INCORPORATED
FRANKLIN, VIRGINIA

Drawn By:	LEC	Date:	2-11-10
Checked By:	EH	Revision:	Date:
Acad File No.:	OEG00001	Figure No.:	1
Project No.:			



LEGEND

 RIVER TEMPERATURE STUDY POINT
 TAKEN ON 6-11-09

 22.5-23.0°C

 >23°C

NOTE:

EFFLUENT AT T11 LOCATION
 RECORDED AT 3 FEET BELOW
 RIVER SURFACE



FRANKLIN RIVER
 TEMPERATURE STUDY
 JUNE 11, 2009

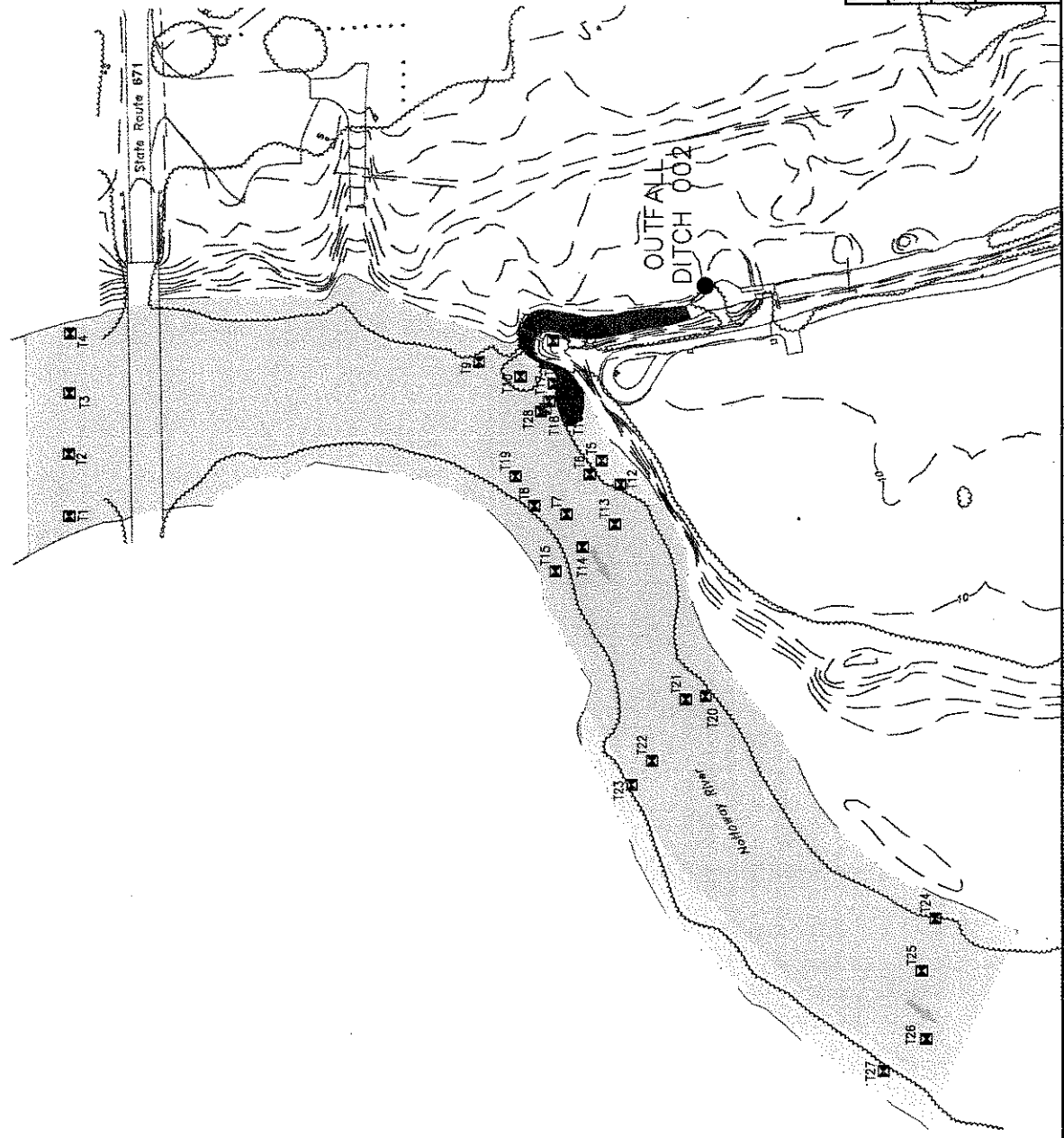
HERCULES INCORPORATED
 FRANKLIN, VIRGINIA

Drawn By:	LED	Date:	2-11-10
Checked By:	EH	Revision Date:	
Acad File No.:	0600001	Figure No.:	2
Project No.:			

LEGEND

- MIXING ZONE TEMPERATURE STUDY POINT**
- 28.5 - 29.0°C
 - 29.1 - 29.5°C
 - >29.5°C

NOTE:
ALL TEMPERATURES WERE TAKEN AT 5 FEET
BELOW RIVER SURFACE.



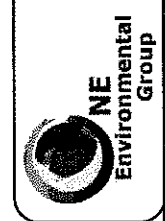
DRAWN BY: W.A.W. (N.J.)	MIXING ZONE TEMPERATURE STUDY		
CHECKED BY: K.G.	HERCULES INCORPORATED FRANKLIN VIRGINIA		
REVIEWED BY: C.W.	Groundwater & Environmental Services, Inc. 23 SOUTH 13TH STREET, SUITE 201, RICHMOND, VA 23219		
NORTH		SCALE IN FEET	FIGURE
		0 100	10-17-06 3



LEGEND

- RIVER TEMPERATURE STUDY POINT TAKEN ON 12-1-09
- 9.0-10.0°C
- >10°C

NOTE:
EFFLUENT AT T7 LOCATION
RECORDED AT 3 FEET BELOW
RIVER SURFACE



FRANKLIN RIVER TEMPERATURE STUDY DECEMBER 1, 2009		Drawn By: LEC	Date: 2-11-10
HERCULES INCORPORATED FRANKLIN, VIRGINIA		Checked By: EH	Revision Date:
		Acad File No.: 0820001	Figure No.: 4
		Project No.:	

Mixing Zone Temperature Study Data
 March 18, 2009
 Ashland Hercules
 Franklin, Virginia

Temperature Location ID	Temp. (Deg. C) 1 foot	Temp. (Deg. C) 5 feet	Temp. (Deg. C) 10 feet	Temp. (Deg. C) at Bottom Sample	Depth of Bottom Sample (feet)
T1	8.4	8.4	8.4	8.5	12'10"
T2	8.4	8.4	~	8.6	8'
T3	8.5	8.4	8.4	8.4	10'5"
T4	8.5	8.4	8.5	8.5	17'5"
T5	8.5	8.5	~	8.5	7'5"
T6	12.0	~	~	10.6	3'
T7	10.5	8.7	8.6	8.8	18'
T8	8.8	8.7	8.7	8.7	18'
T9	8.9	8.9	8.8	8.7	18'
T10	8.9	8.8	8.8	8.8	10'
T11	8.8	8.7	8.7	8.7	10'
T12	8.7	8.6	8.6	8.7	19'
T13	8.8	8.8	8.7	8.7	19'
T14	8.8	8.8	8.7	8.7	17'
T15	8.8	8.8	8.7	8.8	19'
T16	8.9	8.8	8.8	8.8	19'
T17	8.8	8.8	8.8	8.8	18'
T18	8.8	8.8	8.8	8.8	11'
T19	8.9	8.9	8.8	8.9	19'
T20	8.9	8.8	8.8	8.8	10'
T21	8.7	8.8	~	8.8	8'

All depths are below surface of river.
 Temperatures in red are >9.0
 Temperatures in black are <9.0

Mixing Zone Temperature Study Data
June 11, 2009
Ashland Hercules
Franklin, Virginia

Temperature Location ID	Temp. (Deg. C) 1 foot	Temp. (Deg. C) 5 feet	Temp. (Deg. C) 10 feet	Temp. (Deg. C) 15 feet	Temp. (Deg. C) at Bottom Sample	Depth of Bottom Sample (feet)
T1	23.0	23.0	22.9	~	22.9	14'
T2	23.0	22.8	22.8	~	22.8	14'5"
T3	22.8	22.8	22.8	~	22.8	12'
T4	22.9	22.9	22.8	22.8	22.8	17'
T5	22.7	22.7	22.8	22.8	22.8	19'
T6	22.8	22.7	22.8	22.8	22.8	18'
T7	22.8	22.8	22.8	22.8	22.8	18'
T8	22.8	22.8	22.8	22.8	22.8	15'
T9	22.7	22.8	22.8	22.8	22.8	15'
T10	22.8	22.8	~	~	22.8	9'
T11	22.8	~	~	~	23.3	3'
T12	22.8	22.8	22.8	~	22.8	13'5"
T13	22.8	22.8	27.8	22.8	22.8	18'
T14	22.8	22.8	22.8	22.8	22.8	19'
T15	22.9	22.9	~	~	22.8	7'
T16	22.9	22.8	22.8	22.8	22.8	19'
T17	22.8	22.8	22.8	22.8	22.8	19'
T18	22.9	22.8	22.8	22.8	22.8	19'
T19	22.9	22.9	22.9	22.9	22.8	19'
T20	22.9	22.9	22.9	22.9	22.9	19'
T21	22.9	22.9	22.9	22.9	22.8	16'5"
T22	22.9	22.9	22.9	~	22.9	10'
T23	23.0	22.9	22.9	22.9	22.9	19'
T24	23.0	22.9	22.9	22.9	22.9	19'

All depths are below surface of river.
Temperatures in red are >23.1
Temperatures in black are <23.0

Mixing Zone Temperature Study Data
August 9, 2006
Ashland Hercules
Franklin, Virginia

Temperature Location ID	Temp. (Deg. C) 1 foot	Temp. (Deg. C) 5 feet	Temp. (Deg. C) 10 feet	Temp. (Deg. C) at Bottom Sample	Depth of Bottom Sample (feet)
T1	29.2	28.9	28.8		
T2	29.1	28.9	28.8		
T3	28.8	28.9	28.8	28.7	
T4	28.9	28.8	28.8		
T5	29.1	28.9		28.9	8
T6	29.0	29.0	28.8	28.9	16
T7	29.2	28.9	28.8	28.9	12
T8	29.2	28.9		28.9	9
T9	29.0	28.9	28.8	28.9	13
T10	29.0	28.9		29.3	7
T11	29.3	29.3		29.5	7
T12	29.4	29.1	28.9		
T13	28.8	28.8	28.9	29.0	16
T14	29.0	28.8	28.8	28.8	
T15	28.8	28.8			
T16	29.5	29.6		29.6	7
T17	29.3	29.5	29.5		
T18	29.4	29.1	29.0	29.0	17
T19	29.0	28.8	28.8		
T20	29.3	29.0	29.0		
T21	29.2	28.8	28.8	28.8	13
T22	29.2	29.0	28.8	28.8	15
T23	29.3	29.1	29.1	29.1	18
T24	29.0	28.9	28.9		
T25	29.1	28.8	28.8	28.8	14
T26	29.2	29.0	28.9	28.9	17
T27	29.3	29.1		29.0	6
T28	28.9	28.8	29.0	29.1	12

All depths are below surface of river.

Temperatures in red are >29.4

Temperatures in green are between 29.1 and 29.4

Temperatures in black are <29.1

Mixing Zone Temperature Study Data

December 1, 2009

Ashland Hercules

Franklin, Virginia

Temperature Location ID	Temp. (Deg. C) 1 foot	Temp. (Deg. C) 5 feet	Temp. (Deg. C) 10 feet	Temp. (Deg. C) 15 feet	Temp. (Deg. C) at Bottom Sample	Depth of Bottom Sample (feet)
T1	9.3	9.2			9.2	8'
T2	9.1	9.1	9.1		9.2	14'
T3	9.1	9.2	9.2		9.2	10'
T4	9.2	9.2	9.2		9.2	18'
T5	9.1	9.2	9.2	9.2	9.2	15'
T6	9.1	9.2	9.2			10'
T7	19.0				19.0	3'
T8						
T9	11.8	11.0			11.0	5'
T10	9.5	9.4	9.4		9.4	10'
T11	9.3	9.3	9.4		9.4	13'
T12	9.2	9.2	9.2		9.2	14'
T13	9.2	9.3	9.2		9.2	18'
T14	9.2	9.2	9.3		9.3	18'
T15	9.5	9.3	9.4		9.3	12'
T16	9.2	9.2	9.3	9.3	9.3	15'
T17	9.3	9.3	9.4		9.4	18'
T18	9.2	9.3	9.3		9.3	18'
T19	9.3	9.3	9.3		9.3	18'
T20	9.3	9.3			9.3	8'
T21	9.3	9.3			9.3	9'
T22	9.3	9.3	9.3	9.3	9.3	15'

All depths are below surface of river.

Temperatures in red are >10.0

Temperatures in black are <10.0

Outfall 201

This internal outfall is the process wastewater treatment system and the location at which the federal effluent guideline limits from 40 CFR 454 apply. The facility has undergone significant changes in the last year, affecting both the application and calculation of federal effluent guideline limitations. BOD and TSS limitations have been recalculated based on these changes. No limits were made less stringent by the recalculation of the limits.

Flow: Monthly average and daily maximum flow measurement is reported monthly from continuous flow monitoring at the internal outfall, prior to the discharge mixing with other flow to outfall 002. This is based on BPJ for this type of process operation at the facility. This is a typical requirement for a VPDES industrial permit.

BOD5: 24 hr. composite sampling at a frequency is once per week is based on flow. Technology-based limits of 157 mg/l and 176.65 lbs/day monthly average, and 296 mg/l and 333.37 lbs/day daily maximum are based on Federal Effluent Guidelines, 40 CFR Part 454, subparts D and C. See effluent limits calculations for derivation of numerical limitations. Operations and flow have changed significantly at the plant during the past year and these limits are based on a reduction in flow from the deletion of the tall oil process at the plant, resulting in a recalculation of limits from subpart D. The Aquapel process was reviewed and it was determined that the process is actually better represented in subpart C rather than subpart F. The reason for the change is presented in correspondence later in this section.

Total Suspended
Solids:

24 hr. composite sampling at a frequency is once per week is based on flow. Technology-based limits of 69 mg/l and 78.12 lbs/day monthly average, and 201 mg/l and 226.83 lbs/day daily maximum are based on Federal Effluent Guidelines, 40 CFR Part 454, subparts D and C. See effluent limits calculations for derivation of numerical limitations. Operations and flow have changed significantly at the plant during the past year and these limits are based on a reduction in flow from the deletion of the tall oil process at the plant, resulting in a recalculation of limits from subpart D. The Aquapel process was reviewed and it was determined that the process is actually better represented in subpart C rather than subpart F. The reason for the change is presented in correspondence later in this section.

Permit Modification 2009

Technology Based Limits based on deletion of Tall Oil Production and Reclassification of the Aquapel Process

The industrial processes at the Franklin facility used to include refining crude tall oil into rosin acid and fatty acid products, upgrading of the fatty acids and manufacturing of paper sizing agents and organic peroxide. These processes are subject to Federal Regulations 40 CFR Part 454 – Gum and Wood Chemicals Manufacturing Point Source Category.

In 2008 the facility stopped producing tall oil products, changing the effluent limitations under 40 CFR 454. At the time of this modification of the permit, the permittee also requested that the DEQ review the subparts under 40 CFR Part 454 to determine if the current classification is appropriate.

Based on these two changes to the way the federal effluent guidelines under 40 CFR 454 are applied, the effluent limitations for BOD and TSS at outfall 201 will change with this permit modification. All flows from tall oil production will be removed from the equation calculating effluent limitations based on production. The production from Pamolyn Crystallization will now be the only production used to calculate limits under Subpart D – Tall Oil Rosin, Pitch and Fatty Acids Subcategory. The Subcategory for the Aquapel process will be changed from Subpart F (Rosin-Based Derivatives) to Subpart C – Wood Rosin, Turpentine and Pine Oil Subcategory. The basis for this presented in a letter from the permittee's consultant to DEQ dated April 20, 2009. This letter included excerpts from the Development Document for the Effluent Guidelines for the Gum and Wood Chemicals Point Source Category.

All documents used to calculate the prior and new limitations for BOD and TSS at outfall 201 are presented in the following pages.

The derivation of the limits under the process prior to 2008 is presented on Pages 1-3; these effluent limitations were included in the VPDES permit reissued in 2007.

The changes to these calculations for this modification are presented in Pages 4-6.

The calculations of the federal effluent guideline limits for outfall 201 for BOD and TSS effective with this modification are presented in Pages 7-9.

The April 20, 2009 letter from the permittee's consultant with explanation of the differences between the subcategories and excerpts from the development document are presented after the derivation of the limits.

FACILITY NAME: Hercules Incorporated

EFFLUENT LIMITS CALCULATIONS

As indicated in the permit application, the industrial processes at Hercules include refining crude tall oil into rosin acid and fatty acid products, upgrading of fatty acids, and manufacturing of paper sizing agents and organic peroxide. These processes are subject to the EPA effluent guidelines known as 40 CFR. This regulation requires the point source to achieve discharges that do not exceed the quantity (mass) determined by multiplying the process wastewater flow times the appropriate concentrations given under each category.

Below is a list of processes and their respective manufacturing categories.

<u>Process</u>	<u>SIC code</u>	<u>Production</u>	<u>EPA effluent guidelines</u>
CTO Distillation	2861	445,000 lb/d	40 CFR Part 454 Subpart D
Crude Fatty Acid Distillation	2861	221,000 lb/d	40 CFR Part 454 Subpart D
Pamolyn Crystallization	2861	126,000 lb/d	40 CFR Part 454 Subpart D
Sizing Agent (Aquapel process)	2899	100,000 lb/d	40 CFR Part 454 Subpart F

I. Under 40 CFR Part 454 - Gum and Wood Chemicals Manufacturing Point Source Category

Subpart D - Tall Oil Rosin, Pitch and Fatty Acids Subcategory

<u>Effluent characteristics</u>	<u>Effluent limitations</u>		
	Daily Max	Daily Average	Minimum
BOD5 (lb/1,000 lb of product)	0.995	0.529	
TSS (lb/1,000 lb of product)	0.705	0.243	
pH (standard unit)	9.0		6.0

Subpart F - Rosin-Based Derivatives Subcategory

<u>Effluent characteristics</u>	<u>Effluent limitations</u>		
	Daily Max	Daily Average	Minimum
BOD5 (lb/1,000 lb of product)	1.41	0.748	
TSS (lb/1,000 lb of product)	0.045	0.015	
pH (standard unit)	9.0		6.0

FACILITY NAME: Hercules Incorporated

A. Tail Oil, Rosin, Pitch and Fatty Acids Subcategory

CTO Distillation (2861)	445,000 lb/d	40 CFR Part 454 Subpart D
Crude Fatty Acid (2861)	221,000 lb/d	40 CFR Part 454 Subpart D
Distillation		
Pamolyn (2861)	126,000 lb/d	40 CFR Part 454 Subpart D
Crystallization		
Total	792,000 lb/d	

BOD5 (max) = 0.995 lb/1000 lb of product x 792,000 lb/d
= 788.04 lb/d

BOD5 (average) = 0.529 lb/1000 lb of product x 792,000 lb/d
= 418.96 lb/d

TSS (max) = 0.705 lb/1000 lb of product x 792,000 lb/d
= 558.36 lb/d

TSS (average) = 0.243 lb/1000 lb of product x 792,000 lb/d
= 192.45 lb/d

B. Rosin-Based Derivatives Subcategory

Sizing Agent (2899)	100,000 lb/d	40 CFR Part 454 Subpart F
(Aguapel process)		

BOD5 (max) = 1.41 lb/1000 lb of product x 100,000 lb/d
= 141 lb/d

BOD5 (average) = 0.748 lb/1000 lb of product x 100,000 lb/d
= 74.8 lb/d

TSS (max) = 0.045 lb/1000 lb of product x 100,000 lb/d
= 4.5 lb/d

TSS (average) = 0.015 lb/1000 lb of product x 100,000 lb/d
= 1.5 lb/d

Parameter	Value from A. (lb/d)	+	Value from B. (lb/d)	=	Total (lb/d)
BOD5 (max)	788.04	+	141	=	929.04
BOD5 (average)	418.96	+	74.8	=	493.76
TSS (max)	558.36	+	4.5	=	562.86
TSS (average)	192.45	+	1.5	=	193.95

Converting the mass effluent limitations (lb/d) into concentration (mg/l),

The flow value of 135,000 gpd was used in the conversion process. It is the average flow of outfall-002. ^{ms} 201

BOD5 (max)	825 mg/l
BOD5 (average)	438 mg/l
TSS (max)	500 mg/l
TSS (average)	172 mg/l

Changes to Technology Based Limitations Based on Deletion of Tall oil Production & Change in Subcategory for Aquapel

Permit No. VA0003433

FACILITY NAME: Hercules Incorporated

EFFLUENT LIMITS CALCULATIONS - 2007 information

As indicated in the permit application, the industrial processes at Hercules include refining crude tall oil into rosin acid and fatty acid products, upgrading of fatty acids, and manufacturing of paper sizing agents and organic peroxide. These processes are subject to the EPA effluent guidelines known as 40 CFR. This regulation requires the point source to achieve discharges that do not exceed the quantity (mass) determined by multiplying the process wastewater flow times the appropriate concentrations given under each category.

Below is a list of processes and their respective manufacturing categories.

Process	SIC code	Production	EPA effluent guidelines
Crude Distillation	2862	445,000 lb/d	40 CFR Part 454 Subpart D
Crude Fatty Acid Distillation	2862	221,000 lb/d	40 CFR Part 454 Subpart D
Pamolyn Crystallization	2861	126,000 lb/d	40 CFR Part 454 Subpart D
Sizing Agent (Aquapel process)	2899	100,000 lb/d	40 CFR Part 454 Subpart F

> Deleted 2008

I. Under 40 CFR Part 454 - Gum and Wood Chemicals Manufacturing Point Source Category

Subpart D - Tall Oil Rosin, Pitch and Fatty Acids Subcategory

Effluent characteristics	Effluent limitations		
	Daily Max	Daily Average	Minimum
BOD5 (lb/1,000 lb of product)	0.995	0.529	
TSS (lb/1,000 lb of product)	0.705	0.243	
pH (standard unit)	9.0		6.0

~~Subpart E - Rosin Based Derivatives Subcategory~~

Effluent characteristics	Effluent limitations		
	Daily Max	Daily Average	Minimum
BOD5 (lb/1,000 lb of product)	2.68	1.10	
TSS (lb/1,000 lb of product)	1.44	0.748	
pH (standard unit)	9.0	0.815 0.475	6.0

FACILITY NAME: Hercules Incorporated

A. Tall Oil, Rosin, Pitch and Fatty Acids Subcategory

~~CrO Distillation (2861)~~ ~~445,000 lb/d~~ ~~40 CFR Part 454 Subpart D~~
~~Crude Fatty Acid (2861)~~ ~~221,000 lb/d~~ ~~40 CFR Part 454 Subpart D~~
~~Distillation~~
 Pamolyn (2861) 126,000 lb/d 40 CFR Part 454 Subpart D
 Crystallization

Total 792,000 lb/d - ~~666,000 lb/d~~ = 126,000 lb/d

BOD5 (max) = 0.995 lb/1000 lb of product x $\frac{126,000 \text{ lb/d}}{792,000 \text{ lb/d}}$ = 125.37 lb/d
~~= 788.04 lb/d~~

BOD5 (average) = 0.529 lb/1000 lb of product x $\frac{126,000 \text{ lb/d}}{792,000 \text{ lb/d}}$ = 66.65 lb/d
~~= 418.96 lb/d~~

TSS (max) = 0.705 lb/1000 lb of product x $\frac{126,000 \text{ lb/d}}{792,000 \text{ lb/d}}$ = 88.83 lb/d
~~= 559.36 lb/d~~

TSS (average) = 0.243 lb/1000 lb of product x $\frac{126,000 \text{ lb/d}}{792,000 \text{ lb/d}}$ = 30.62 lb/d
~~= 197.45 lb/d~~

B. Rosin-Based Derivatives Subcategory

Sizing Agent (2899) 100,000 lb/d 40 CFR Part 454 Subpart ~~C~~
 (Aquadel process)

BOD5 (max) = $\frac{2.08}{1.44}$ lb/1000 lb of product x 100,000 lb/d = 208 lb/d
~~= 144 lb/d~~

BOD5 (average) = $\frac{1.10}{0.748}$ lb/1000 lb of product x 100,000 lb/d = 110 lb/d
~~= 74.8 lb/d~~

TSS (max) = $\frac{1.38}{0.045}$ lb/1000 lb of product x 100,000 lb/d = 138 lb/d
~~= 4.5 lb/d~~

TSS (average) = $\frac{0.475}{0.015}$ lb/1000 lb of product x 100,000 lb/d = 47.5 lb/d
~~= 1.5 lb/d~~

Parameter	Value from A. (lb/d)	+	Value from B. (lb/d)	=	Total (lb/d)
BOD5 (max)	788.04 125.37	+	141 208	=	929.04 333.37 15/d
BOD5 (average)	418.96 66.65	+	74.8 110	=	493.76 176.65 15/d
TSS (max)	558.36 88.83	+	4.5 138	=	562.86 226.83 15/d
TSS (average)	492.45 30.62	+	1.5 47.5	=	493.95 78.12 15/d

Converting the mass effluent limitations (lb/d) into concentration (mg/l),

The flow value of 135,000 gpd was used in the conversion process. It is the average flow of outfall-002. ^(ms) 201

BOD5 (max)	825 mg/l 296.09 = 296 mg/l
BOD5 (average)	438 mg/l 156.90 = 157 mg/l
TSS (max)	500 mg/l 201.47 = 201 mg/l
TSS (average)	172 mg/l 69.38 = 69 mg/l

$$16/d \div .135 \div 8.34 = mg/l$$

Ashland – Hercules Franklin VA0003433

Permit Modification 2009

Technology Based Limits based on deletion of Tall Oil Production and Reclassification of the Aquapel Process

Based on the deletion of the Tall Oil process and the re-classification of the Aquapel process, the following limits are applicable at outfall 201 for BOD and TSS.

I. Processes and production:

<u>Process</u>	<u>SIC Code</u>	<u>Production</u>	<u>EPA Guideline</u>
Pamolyn Crystallization:	2861	126,000 lb/d	40 CFR 454 Subpart D
Aquapel Process	2899	100,000 lb/d	40 CFR 454 Subpart C

II. Effluent Characteristics and Applicable Effluent Guideline Limitations

A. Subpart D – Tall Oil Rosin, Pitch and Fatty Acids

<u>Effluent Characteristic</u>	<u>Effluent Limitations</u>	
	Daily Max	Average
BOD5 (1b/1,000 lb of product)	0.995	0.529
TSS (1b/1,000 lb of product)	0.705	0.243

A. Subpart C – Wood Rosin, Turpentine and Pine Oil Process

<u>Effluent Characteristic</u>	<u>Effluent Limitations</u>	
	Daily Max	Average
BOD5 (1b/1,000 lb of product)	2.08	1.10
TSS (1b/1,000 lb of product)	1.38	0.475

Ashland – Hercules Franklin VA0003433

Permit Modification 2009

Technology Based Limits based on deletion of Tall Oil Production and Reclassification of the Aquapel Process

III. Mass Limit Derivation

A.	Subpart D	Pamolyn Crystallization:	126,000 lb/d
	BOD (max)	0.995 lb/1,000 lb of product x 126,000 lb/d	= 125.37 lb/day
	BOD (avg)	0.529 lb/1,000 lb of product x 126,000 lb/d	= 66.65 lb/day
	TSS (max)	0.705 lb/1,000 lb of product x 126,000 lb/d	= 88.83 lb/day
	TSS (avg)	0.243 lb/1,000 lb of product x 126,000 lb/d	= 30.62 lb/day

B.	Subpart C	Aquapel Process:	100,000 lb/d
	BOD (max)	2.08 lb/1,000 lb of product x 100,000 lb/d	= 208 lb/day
	BOD (avg)	1.10 lb/1,000 lb of product x 100,000 lb/d	= 110 lb/day
	TSS (max)	1.38 lb/1,000 lb of product x 100,000 lb/d	= 138 lb/day
	TSS (avg)	0.475 lb/1,000 lb of product x 100,000 lb/d	= 47.5 lb/day

C.	Total:		
	BOD (max)	125.37 + 208 =	333.37 lb/d
	BOD (avg)	66.65 + 110 =	176.65 lb/d
	TSS (max)	88.83 + 138 =	226.83 lb/d
	TSS (avg)	30.62 + 47.5 =	78.12 lb/d

Ashland – Hercules Franklin VA0003433

Permit Modification 2009

Technology Based Limits based on deletion of Tall Oil Production and Reclassification of the Aquapel Process

IV. Coverting the Mass Limitations (lb/day) to Concentration Limitations (mg/l).

A flow value of 135,000 gpd was used in the conversion process; it is the average flow of outfall 201.

The following equation was used for the conversions: $\text{lb/d} / .135 / 8.34 = \text{mg/l}$

BOD (max)	296.09 =	296 mg/l
BOD (avg)	156.90 =	157 mg/l
TSS (max)	201.47 =	201 mg/l
TSS (avg)	69.38 =	69 mg/l

Outfall 202

This new internal outfall and all associated limitations and monitoring requirements has been removed from the permit with the 2011 modification due to the dewatering activity associated with the corrective action concluding in 2010.

Outfall 902

Flow: Estimate of total flow in Million Gallons (MG) is monitored and reported once per year. This is a standard frequency and sampling type for storm water discharges in VPDES industrial permits.

pH: Grab sample at a monitoring frequency of once per year is based on BPJ for storm water outfalls at industrial facilities. Effluent limits of 6.0 s.u. minimum and 9.0 s.u. maximum are imposed on this outfall based on BPJ to protect water quality in the receiving stream. These limits are the same as the pH limits for outfall 002, of which this storm water discharge is a component.

BOD5: Grab sample at a monitoring frequency of once per year is based on BPJ for storm water outfalls at industrial facilities. Maximum reporting only with no limit. This requirement is based on BPJ for this organic chemical manufacturing facility.

Total Petroleum

Hydrocarbons: Grab sample at a monitoring frequency of once per year is based on BPJ for storm water outfalls at industrial facilities. Maximum reporting only with no limits. This parameter is a good indicator in determining the effectiveness of BMPs at the facility. This is based on BPJ and is a standard indicator parameter at industrial facilities.

Chemical Oxygen

Demand: Grab sample at a monitoring frequency of once per year is based on BPJ for storm water outfalls at industrial facilities. Maximum reporting only with no limits. This parameter is a good indicator in determining the effectiveness of BMPs at this organic chemical industrial facility. This is based on BPJ.

Total Suspended

Solids: Grab sample at a monitoring frequency of once per year is based on BPJ for storm water outfalls at industrial facilities. Maximum reporting only with no limits. This parameter is a good indicator in determining the effectiveness of BMPs at the facility. This is based on BPJ and is a standard indicator parameter at industrial facilities.

Based on the General Permit Regulation for Storm Water Associated with Industrial Activity, specifically Sector C, Chemical and Allied Products Manufacturing, 9 VAC 25-151-110, there are no effluent limitations or benchmark monitoring requirements for storm water at facilities in the SIC codes 2861-2869 or 2899. There are specific special conditions associated with this Sector category, which will be addressed under the Special Conditions section in the permit and fact sheet.

Outfalls 003, 004, 005, 006

- Flow: Estimate of total flow in Million Gallons (MG) is monitored and reported once per year. This is a standard frequency and sampling type for storm water discharges in VPDES industrial permits.
- pH: Grab sample at a monitoring frequency of once per year is based on BPJ for storm water outfalls at industrial facilities. Minimum and maximum reporting only with no limits. This parameter is a good indicator in determining the effectiveness of BMPs at the facility. This is based on BPJ and is a standard indicator parameter at industrial facilities.
- Total Petroleum
Hydrocarbons: Grab sample at a monitoring frequency of once per year is based on BPJ for storm water outfalls at industrial facilities. Maximum reporting only with no limits. This parameter is a good indicator in determining the effectiveness of BMPs at the facility. This is based on BPJ and is a standard indicator parameter at industrial facilities.
- Chemical Oxygen
Demand: Grab sample at a monitoring frequency of once per year is based on BPJ for storm water outfalls at industrial facilities. Maximum reporting only with no limits. This parameter is a good indicator in determining the effectiveness of BMPs at this organic chemical industrial facility. This is based on BPJ.
- Total Suspended
Solids: Grab sample at a monitoring frequency of once per year is based on BPJ for storm water outfalls at industrial facilities. Maximum reporting only with no limits. This parameter is a good indicator in determining the effectiveness of BMPs at the facility. This is based on BPJ and is a standard indicator parameter at industrial facilities.

Based on the General Permit Regulation for Storm Water Associated with Industrial Activity, specifically Sector C, Chemical and Allied Products Manufacturing, 9 VAC 25-151-110, there are no effluent limitations or benchmark monitoring requirements for storm water at facilities in the SIC codes 2861-2869 or 2899. There are specific special conditions associated with this Sector category, which will be addressed under the Special Conditions section in the permit and fact sheet.

Guidance Memo 96-001 recommends that chemical water quality-based limits not be placed on storm water outfalls at this time because the methodology for developing limits and the proper method of sampling is still a concern and under review by EPA. Therefore, in the interim, screening criteria have been established at 2 times the acute criteria. These criteria are applied solely to identify those pollutants that should be given special emphasis during development of the Storm Water Pollution Prevention Plan (SWPPP). Any storm water outfall data (pollutant specific) submitted by the permittee which were above the established screening criteria levels requires monitoring in Part I.A. of the permit for that specific outfall and pollutant. For this facility, no data were above the established screening criteria, so no parameters are specifically included in the storm water management evaluation section of the SWPPP.

The SWPPP required in this permit is designed to reduce pollutants in storm water runoff. The goal of the SWPPP is to reduce pollutants to the maximum extent practicable. An annual report is to be submitted to the Regional office and shall include the data collected the previous year with an indication if the SWPPP or any BMPs were modified based on the monitoring results.

During the modification request, the permittee requested that these outfalls, including new outfalls 004, 005 and 006 be considered substantially identical and that only Outfall 003 be sampled. This request was considered and it was determined that a better option would be to sample each outfall during the remainder of this permit term and use that sampling information to provide evidence that the outfalls are substantially identical or are not. Based on the results of visual and analytical monitoring during the remainder of this permit term, the outfalls may be considered substantially identical at the reissuance of this permit in 2012.

ATTACHMENT 7

SPECIAL CONDITIONS RATIONALE

VPDES PERMIT PROGRAM
LIST OF SPECIAL CONDITIONS RATIONALE

Name of Condition:

B. WET Schedule and Limitation

Rationale: Required by the State Water Control Law, Section 62.1-44.15 (3a) and the State's Water Quality Standards (9 VAC 25-260-20). In addition, the VPDES Permit Regulation, 9 VAC 25-31-220 D. and 40 CFR 122.44 (d) require limits necessary to meet water quality standards. In accordance with the VPDES Permit Regulation, 9 VAC 25-31-250, and 40 CFR 122.47, the permit may, when appropriate, specify a schedule of compliance leading to compliance with the Clean Water Act, laws and regulations. See Attachment 9 of this fact sheet for additional justification.

C. OTHER REQUIREMENTS OR SPECIAL CONDITIONS

1. Water Quality Standards Reopener

Rationale: The VPDES Permit Regulation, 9 VAC 25-31-220 D requires effluent limitations to be established which will contribute to the attainment or maintenance of water quality criteria.

2. Nutrient Enriched Waters Reopener

Rationale: The Policy for Nutrient Enriched Waters, 9 VAC 25-40 -10 allows reopening of permits for discharges into waters designated as nutrient enriched if total phosphorus and total nitrogen in a discharge potentially exceed specified concentrations. The policy also anticipates that future total phosphorus and total nitrogen limits may be needed.

3. Licensed Operator Requirement

Rationale: The Permit Regulation, 9 VAC 25-31-200 D and Code of Virginia 54.1-2300 et. seq., Rules and Regulations for Waterworks and Wastewater Works Operators (18 VAC 160-20-10 et seq.) requires licensure of operators.

4. Operations & Maintenance (O & M) Manual

Rationale: The State Water Control Law, Section 62.1-44.21 allows requests for any information necessary to determine the effect of the discharge on State waters. Section 401 of the Clean Water Act requires the permittee to provide opportunity for the state to review the proposed operations of the facility. In addition, 40 CFR 122.41 (e) requires the permittee, at all times, to properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) in order to achieve compliance with the permit (includes laboratory controls and QA/QC). For this permit modification, the EPA requested that solvent handling be specifically addressed in the O&M Manual due to past instances at the facility where solvent handling resulted in a significant spill to the receiving stream. The Condition was also updated to include operation of the new RO system at the facility.

5. Notification Levels

Rationale: The VPDES Permit Regulation, 9 VAC 25-31-200 and 40 CFR 122.42 (a) require notification of the discharge of certain parameters at or above specific concentrations for existing manufacturing, commercial mining and silvicultural discharges.

B. WHOLE EFFLUENT TOXICITY (WET) LIMITATION MONITORING REQUIREMENTS FOR OUTFALL 002

1. The Whole Effluent Toxicity limitations in Part I.A. for outfall 002 are final limits. These limits are:

Acute: 1.0 TU_a (LC₅₀ = 100% effluent)
Chronic: 6.25 TU_c (NOEC ≥ 16% effluent)

2. The permittee shall conduct quarterly acute and chronic toxicity tests using 24 hour, flow-proportioned composite samples of final effluent from outfall 002 in accordance with the sampling methodology in Part I.A. of this permit. The composite samples for toxicity testing shall be taken at the same time as the monitoring for the outfall in Part I.A. of this permit. The acute and chronic tests shall be conducted for outfall 002 using:

48 Hour Static Acute Test using Ceriodaphnia dubia

Chronic 3-Brood Static Renewal Survival and Reproduction Test using Ceriodaphnia dubia

and

Chronic 7-day Static Renewal Survival and Growth Test with Pimephales promelas

3. The acute tests shall be performed with a minimum of 5 dilutions, derived geometrically, for the calculation of a valid LC₅₀. Express the results as TU_a (Acute Toxic Units) by dividing 100/ LC₅₀ for reporting.

The chronic tests shall be conducted in such a manner and at sufficient dilutions (minimum of five dilutions, derived geometrically) to determine the "No Observed Effect Concentration" (NOEC) for survival and growth. Results which cannot be quantified (i.e., a "less than" NOEC value) are not acceptable, and a retest will have to be performed. Express the test NOEC as TU_c (Chronic Toxic Units), by dividing 100/NOEC for reporting. Report the LC50 at 48 hours and the IC25 with the NOEC's in the test report.

Test procedures and reporting shall be in accordance with the WET testing methods cited in 40 CFR 136.3.

4. Prior to use in the chronic toxicity test, effluent samples may be UV-radiated by 8W for 1.5 hours per 3.4 liter sample. Any changes to this UV treatment shall be submitted to DEQ for approval prior to implementation.
5. The permit may be modified or revoked and reissued to include pollutant specific limits in lieu of a WET limit should it be demonstrated that toxicity is due to specific parameters. The pollutant specific limits must control the toxicity of the effluent.
6. Two complete copies of the of the toxicity test reports shall be submitted with the DMR. A complete report must contain a copy of all laboratory benchsheets, certificates of analysis, and all chains of custody.

C. OTHER REQUIREMENTS OR SPECIAL CONDITIONS

1. Water Quality Standards Reopener

Should effluent monitoring indicate the need for any water quality based limitation, this permit may be modified or, alternatively, revoked and reissued to incorporate appropriate limitations.

2. Nutrient Enriched Waters Reopener

This permit may be modified or, alternatively, revoked and reissued to include new or alternative nutrient limitations and/or monitoring requirements should the State Water Control Board adopt nutrient standards for the waterbody receiving the discharge or if a future water quality regulation or statute requires new or alternative nutrient control.

3. Licensed Operator Requirement

The permittee shall employ or contract at least one Class II licensed wastewater works operator for this facility. The license shall be issued in accordance with Title 54.1 of the Code of Virginia and the regulations of the State Water Control Board for Waterworks and Wastewater Works Operators. The permittee shall notify the Tidewater Regional Office in writing whenever he is not complying, or has grounds for anticipating he will not comply with this requirement. The notification shall include a statement of reasons and a prompt schedule for achieving compliance.

4. Operations and Maintenance (O & M) Manual

The permittee shall review the existing O & M Manual and notify the DEQ Tidewater Regional Office, in writing, that it is still current. This O&M Manual shall include descriptions of the treatment works operations and its contributing sources, and practices necessary to achieve compliance with this permit. The revised Manual shall specifically address: reverse osmosis system operation and maintenance, wastewater treatment system operation; portable treatment system operation; routine and emergency maintenance for all treatment systems; wastewater and/or storm water collection, treatment and disposal/discharge; permitted outfall locations; effluent sampling and preservation procedures; laboratory testing, analysis and recording of results; submittal and retention of all records, reporting forms and testing results; and a listing of the personnel responsible for the above activities. Also included in the Manual shall be a list of facility, local and state emergency contacts; procedures for reporting and responding to any spills/overflows/ treatment works upsets; a copy of the VPDES/VPA permit; and copies of all reporting forms. If the O&M Manual is no longer current, a revised O&M

Manual shall be submitted for approval. Once approved, this revised manual shall become an enforceable condition of this permit. Future changes to the facility must be addressed by the submittal of a revised O & M Manual.

Revised Manual Due: No later than September 15, 2011

5. Notification Levels

The permittee shall notify the Department as soon as they know or have reason to believe:

- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
 - (1) One hundred micrograms per liter (100 ug/l);
 - (2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
 - (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application; or
 - (4) The level established by the State Water Control Board.
- b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
 - (1) Five hundred micrograms per liter (500 ug/l);
 - (2) One milligram per liter (1 mg/l) for antimony;
 - (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application.
 - (4) The level established by the State Water Control Board.

6. Quantification Levels Under Part I.A.

Rationale: States are authorized to establish monitoring methods and procedures to compile and analyze data on water quality, as per 40 CFR part 130, Water Quality Planning and Management, subpart 130.4. Section b. of the special condition defines QL and is included per BPJ to clarify the difference between QL and MDL.

7. Compliance Reporting Under Part I.A.

Rationale: Defines reporting requirements for toxic parameters and some conventional parameters with quantification levels to ensure consistent, accurate reporting on submitted reports.

8. Materials Handling and Storage

Rationale: The VPDES Permit Regulation, 9 VAC 25-31-50 A., prohibits the discharge of any wastes into State waters unless authorized by permit. The State Water Control Law, Sec. 62.1-44.18:2, authorizes the Board to prohibit any waste discharge which would threaten public health or safety, interfere with or be incompatible with treatment works or water use. Section 301 of the Clean Water Act prohibits the discharge of any pollutant unless it complies with specific sections of the Act.

9. Site Specific Metals Translator Study

Rationale: The metals translator study approved on November 6, 2001 provides the basis for an alternate limit for copper in the permit. The special condition will detail the calculations used for the limit.

10. Use of Past Sludge Application Site

Rationale: Per BPJ and in accordance with the Corrective Action process, the permittee will be prohibited from using the past sludge application site without modification of the VPDES permit.

11. Cooling Water and Boiler Additives

Rationale: Chemical additives may be toxic or otherwise violate the receiving stream water quality standards. Upon notification, the regional office can determine if this new additive will warrant a modification to the permit.

12. Minimum Freeboard

Rationale: Minimize the discharge of untreated wastewater to the groundwater or surface waters.

13. Best Management Practices (BMPs)

Rationale: The VPDES Permit Regulation, 9 VAC 25-31-220 K., and 40 CFR 122.44 (k) allow BMPs for the control of toxic pollutants listed in Section 307 (a)(1), and hazardous substances listed in Section 311 of the Clean Water Act where numeric limits are infeasible or BMPs are needed to accomplish the purpose/intent of the law. BMP's shall be used to minimize spills and releases of chemicals and raw, intermediate, final and waste products from

the site to the receiving stream. In addition, the General Permit Regulation for Storm Water Associated with Industrial Activity, specifically Sector C, Chemical and Allied Products Manufacturing, 9 VAC 25-151-110, includes a section on non-structural BMPs that has been incorporated into the permit.

14. Prohibition of specific and non-storm water discharges

Rationale: The General Permit Regulation for Storm Water Associated with Industrial Activity, specifically Sector C, Chemical and Allied Products Manufacturing, 9 VAC 25-151-110, includes a prohibition on specific non-storm water discharges non that has been incorporated into the permit. Spills and inadvertent discharges of the materials used, produced and/or disposed of as waste materials at organic chemical manufacturing facilities have the potential to exhibit toxic effects in the receiving stream; therefore, a specific prohibition on these types of discharges, as described in 9 VAC 25-151-110 is included based on BPJ to protect water quality.

15. Reverse Osmosis (RO) System Additives

Rationale: Chemical additives may be toxic or otherwise violate the receiving stream water quality standards. Upon notification, the regional office can determine if this new additive will warrant a modification to the permit.

D. STORM WATER MANAGEMENT CONDITIONS

1. Sampling Methodology for Specific Outfalls 902, 003, 004, 005, 006

Rationale: Defines methodology for collecting representative effluent samples in conformance with applicable regulations.

2. Storm Water Management Evaluation

Rationale: The Clean Water Act 402(p) (2) (B) requires permits for storm water discharges associated with industrial activity. VPDES permits for storm water discharges must establish BAT/BCT requirements in accordance with 402(p) (3) of the Act. The Storm Water Pollution Prevention Plan is the vehicle proposed by EPA in the final NPDES General Permits for Storm Water Discharges Associated with Industrial Activity (Federal Register Sept 9, 1992) to meet the requirements of the Act. Additionally, the VPDES Permit Regulation, 9 VAC 25-31-220 K., and 40 CFR 122.44 (k) allow BMPs for the control of toxic pollutants listed in Section 307 (a) (1), and hazardous substances listed in Section 311 of the Clean Water Act where numeric limits are infeasible or BMPs are needed to accomplish the purpose/intent of the law.

Finally, the EPA produced a document dated August 1, 1996, entitled "Interim Permitting Approach for Water Quality- Effluent Limitations in Storm Water Permits". This document indicated that an interim approach to limiting storm water could be through the use of best management practices rather than numerical limits. EPA pointed out that Section 502 of the Clean Water Act (CWA) defined "effluent limitation" to mean "any restriction on quantities, rates, and concentrations of constituents discharged from point sources. The CWA does not say that effluent limitations need be numeric." The use of BMPs falls in line with the Clean Water Act which notes the need to control these discharges to the maximum extent necessary to mitigate impacts on water quality.

3. General Storm Water Conditions

a. Sample Type

Rationale: This stipulates the proper sampling methodology for qualifying rain events from regulated storm water outfalls. Use of this condition is a BPJ determination based on the EPA storm water multi-sector general permit for industrial activities and is consistent with that permit.

b. Recording of Results

Rationale: This sets forth the information which must be recorded and reported for each storm event sampling (ie. date and duration event, rainfall measurement, and duration between qualifying events). It also requires the maintenance of daily rainfall logs which are to be reported. This condition is carried over from the previous storm water pollution prevention plan requirements contained in the EPA storm water baseline industrial general permit.

c. Sampling Waiver

Rationale: This condition allows the permittee to collect substitute samples of qualifying storm events in the event of adverse climatic conditions. Use of this condition is a BPJ determination based on the EPA storm water multi-sector general permit for industrial activities and is consistent with that permit.

d. Representative Discharge

Rationale: This condition allows the permittee to submit the results of sampling from one outfall as representative of other similar outfalls, provided the permittee can demonstrate that the outfalls are substantially identical. Use of this condition is a BPJ determination based on the EPA storm water multi-sector general permit for industrial activities and is consistent with that permit.

e. Quarterly Visual Examination of Storm Water Quality

Rationale: This condition requires that visual examinations of storm water outfalls take place at a specified frequency and sets forth what information needs to be checked and documented. These examinations assist with the evaluation of the pollution prevention plan by providing a simple, low cost means of assessing the quality of storm water discharge with immediate feedback. Use of this condition is a BPJ determination based on the EPA storm water multi-sector general permit for industrial activities and is consistent with that permit.

f. Releases of Hazardous Substances or Oil in Excess of Reportable Quantities

Rationale: This condition requires that the discharge of hazardous substances or oil from a facility be eliminated or minimized in accordance with the facility's storm water pollution prevention plan. If there is a discharge of a material in excess of a reportable quantity, it establishes the reporting requirements in accordance with state laws and federal regulations. In addition, the pollution prevention plan for the facility must be reviewed and revised as necessary to prevent a reoccurrence of the spill. Use of this condition is a BPJ determination based on the EPA storm water multi-

sector general permit for industrial activities and is consistent with that permit.

g. Allowable Non-Storm Water Discharges

Rationale: The listed allowable non-storm water discharges are the same as those allowed by the EPA in their multi-sector general permit, and are the same non-storm water discharges allowed under the Virginia General VPDES Permit for Discharges of Storm Water Associated with Industrial Activity, 9 VAC 25-151-10 et seq. Allowing the same non-storm water discharges in VPDES individual permits provides consistency with other storm water permits for industrial facilities. The non-storm water discharges must meet the conditions in the permit.

4. Storm Water Pollution Prevention Plan

Rationale: The Clean Water Act 402(p) (2) (B) requires permits for storm water discharges associated with industrial activity. VPDES permits for storm water discharges must establish BAT/BCT requirements in accordance with 402(p) (3) of the Act. The Storm Water Pollution Prevention Plan is the vehicle proposed by EPA in the final NPDES General Permits for Storm Water Discharges Associated with Industrial Activity (Federal Register Sept 9, 1992) to meet the requirements of the Act. Additionally, the VPDES Permit Regulation, 9 VAC 25-31-220 K., and 40 CFR 122.44 (k) allow BMPs for the control of toxic pollutants listed in Section 307 (a) (1), and hazardous substances listed in Section 311 of the Clean Water Act where numeric limits are infeasible or BMPs are needed to accomplish the purpose/intent of the law.

5. Facility-specific Storm Water Management Conditions

Rationale: These conditions set forth additional site-specific storm water pollution prevention plan requirements. Use of these conditions is a BPJ determination based on the EPA storm water multi-sector general permit for industrial activities and DEQ's general permit for storm water associated with industrial activities and is consistent with those permits.

ATTACHMENT 8

TOXICS MONITORING/TOXICS REDUCTION/ WET LIMIT RATIONALE

No change with 2011 modification, see
reissuance fact sheet for this attachment

ATTACHMENT 9

MATERIAL STORED

No change with 2011 modification, see
reissuance fact sheet for this attachment

ATTACHMENT 10

RECEIVING WATERS INFO./
TIER DETERMINATION/STORET DATA/
STREAM MODELING/303(d) LISTED SEGMENTS

MEMORANDUM

Department of Environmental Quality
Tidewater Regional Office

5636 Southern Boulevard

Virginia Beach, VA 23462

SUBJECT: VPDES Application Requests

From ~~TO~~: Stephen Cioccia, TRO
To ~~FROM~~: Mark Sauer, TRO
DATE: Sept. 17 2007
COPIES: TRO File - facility # 257, PPP

An application has been received for the following facility:

Hercules Incorporated - Franklin

Topo Map Name: Courtland / Franklin VPDES #: VA0003433

Receiving Stream: (Nettaway River) 002 + (Wills Cr. to Nettaway River) 003

Attached is a Topographic Map showing facility boundaries and outfall location(s).

Attached is a STORET Request Form if STORET data is requested.

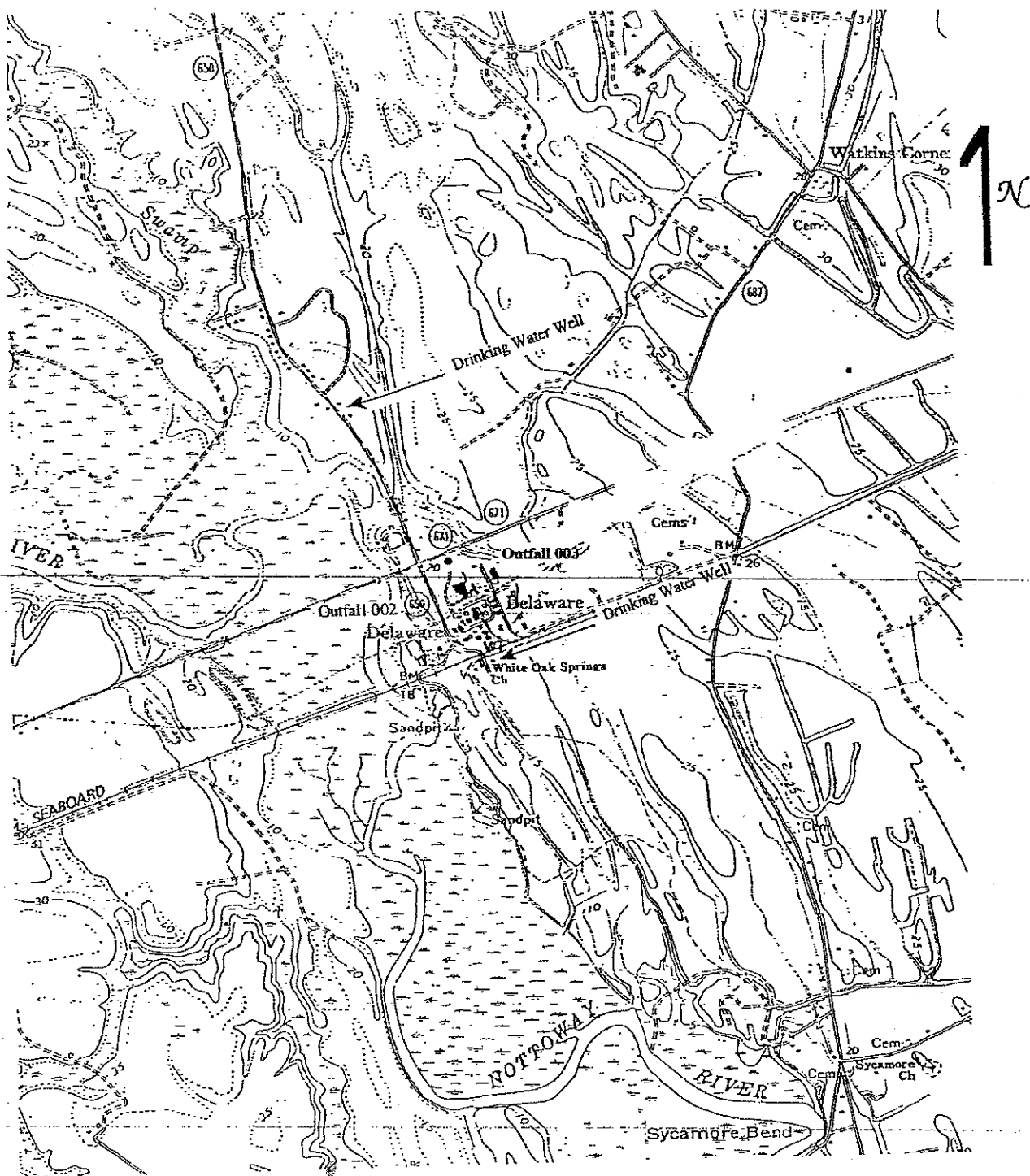
We request the following information from you:

1. X Tier Determination. Tier: 2 (default evaluation - No impairments present)
Please include a basis for the tier determination. Attachment 1
2. Not requested STORET Data and STORET Station Location(s).
3. X Is this facility mentioned in a Management Plan?
✓ No Yes No, but will be included when the Plan is updated.
4. X Are limits contained in a Management Plan?
✓ No Yes (If Yes, Please include the basis for the limits.)
5. X Does this discharge go to a 303(d) stream segment? No

Return Due Date: Not indicated Date Returned: 9/27/07

STORET Station: N/A

STORET Station:



Source: USGS Franklin, Virginia 7.5 Minute Topographic Quadrangle Map, REV 1986.
 USGS Courtland, Virginia 7.5 Minute Topographic Quadrangle Map, REV 1986.
 Scale : 1 : 24,000

that the wasteload allocations and permit requirements for both type waters are the same and they are both grouped under tier 1 for implementation.

Tier 1 waters are defined as those waters wherein one or more standards are not being attained or wherein the existing quality, under critical conditions, is equal to but does not exceed one or more applicable criteria. Information that may be used to establish this tier includes:

- Data collected from the segment of stream being considered that demonstrate that one or more standards are violated or are just barely being met (note exceptions above for fecal coliform and temperature). This demonstration must be outside any mixing zones.
- Data collected for an existing effluent that indicates the need for a more stringent limit than currently exists indicates that the standard is not currently being attained by the effluent under consideration. Thus the water would be tier 1.
- Default assumptions for ammonia that indicate the need for a more stringent limit than currently exists indicates that the ammonia standard is not currently being attained by the effluent under consideration; thus, the water is tier 1.
- An existing water quality based permit limit that was obtained through mathematical modeling may indicate that the effluent under consideration allows the standard to be just barely met in the receiving waters for the parameter modeled, e.g. a predicted D.O. of 5.0.

Note: this does not apply to fecal coliform or to effluent limits adopted as special standards (e.g. Potomac Embayment Standards).

- Biological data that demonstrate in stream toxicity.
- Judgement based on the presence of definitely identified sources of pollutants or demonstrated use impairment. Such judgement must be justified and documented. An example might be a water supply reservoir where it is known that algicides are routinely applied.

Tier 2 waters are defined as those waters wherein the existing quality is better than the standards for all parameters that the Board has adopted criteria for (except fecal coliform and temperature for class V waters, see notes above).

If data or information is not available to make a determination, the stream is assumed to be tier 2. Public water supplies and trout streams are assumed to be tier 2 unless information is available to indicate otherwise.

Tier 3 waters are those waters so designated by the Board. These waters are listed in 9 VAC 25-260-30.3.c. If waters are not listed in 9 VAC 25-260-30.3.c, then they are not tier 3.

Once the appropriate tier is assigned, the finding should be documented for future reference. The method for doing this is not recommended since it will vary from region to region. The only guidance is that they should be readily available to future permit writers.

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY
Division of Water Permit Coordination
629 E. Main Street Richmond, VA 23240

MEMORANDUM

SUBJECT: Guidance Memo No. 00-2011; Guidance on Preparing VPDES Permit Limits

TO: Regional Directors

FROM: Larry G. Lawson



DATE: August 24, 2000

COPIES: David Paylor, Martin Ferguson, Alan Pollock Jean Gregory, Regional Office Permit Managers, Regional Office Water Permit Managers, Regional Office Compliance and Enforcement Managers, OWPP staff

The purpose of this guidance is to replace/update Guidance Memo No. 93 - 015 "Guidance on Preparing VPDES Permits Based on the Water Quality Standards for Toxics"

This guidance was last updated in 1993. Modifications to the water quality standards (WQS) make it necessary to update the guidance. This guidance replaces all previous guidance on the subjects covered herein. Specifically it updates or replaces the following guidance:

- 91-002 Use of WQS in the VPDES Permit Program
- 91-011 Selection of Sample Types for VPDES Monitoring
- 91-016 Use of Existing WQSA Criteria for Silver and Phenol
- 92-012 Guidance on Use of WQS for Toxics in VPDES Permits
- 92-012a Modification of 92-012
- 930-15 Guidance on Preparing VPDES Permits Based on the Water Quality Standards for Toxics
- 93-021 Antidegradation Implementation Guidance
- 94-008 Metals Monitoring, Monitoring Special Condition TOMP Revisions, & Di-2-Ethylhexyl Phthalate
- 95-012 pH Limits in the VPDES Permits for Cooling Water Outfalls

Note to Users: This document is provided as guidance and, as such, sets forth standard operating procedures for the agency. However, It does not mandate any particular method nor does it prohibit any particular method for the analysis of data, establishment of a wasteload allocation, or establishment of a permit limit. If alternative proposals are made, such proposals should be reviewed and accepted or denied based on their technical adequacy and compliance with appropriate laws and regulations.

Dale Phillips is the contact person if you or your permit managers have any questions.

Voice: 804-698-4077

Fax: 804-698-4032

E-mail: mdphillips@deq.state.va.us

Attachment 1-2



ATTACHMENT 11


TABLE III (a) AND TABLE III (b) -
CHANGE SHEETS

TABLE III(a)

VPDES PERMIT PROGRAM
Permit Processing Change Sheet

1. Effluent Limits and Monitoring Schedule: (List any changes FROM PREVIOUS PERMIT and give a brief rationale for the changes).

OUTFALL NUMBER	PARAMETER CHANGED	MONITORING LIMITS CHANGED FROM / TO	EFFLUENT LIMITS CHANGED FROM / TO	RATIONALE	DATE & INITIAL
002	temperature	1/Week / 1/Week	30 degrees C / 32 degrees C	Submittal of thermal mixing zone study by the permittee	12/24/10 
202	All Parameters	Included / Not Included	Included / Not Included	Outfall and all associated activity removed; outfall removed from the permit	12/24/10 

OTHER CHANGES FROM:	CHANGED TO:	DATE & INITIAL
Operations and Maintenance Manual	Added due date for updated O&M Manual	12/24/10 

VPDES PERMIT PROGRAM
Permit Processing Change Sheet[illegible]

OTHER CHANGES FROM:	CHANGED TO:	DATE & INITIAL

ATTACHMENT 12

NPDES INDUSTRIAL PERMIT RATING WORKSHEET
AND
EPA PERMIT CHECKLIST

NPDES Permit Rating Work Sheet

NPDES NO: VA0003433

Facility Name:

HERCULES FRANKLIN

City: COURTLAND VIRGINIA

Receiving Water: NOTTOWAY RIVER

Reach Number:

- ☐ Regular Addition
- ☐ Discretionary Addition
- ☐ Score change, but no status change
- ☐ Deletion

Is this facility a steam electric power plant (SIC=4911) with one or more of the following characteristics?

1. Power output 500 MW or greater (not using a cooling pond/lake)
2. A nuclear power plant
3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rate

☐ YES: score is 600 (stop here) ☒ NO (continue)

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

☐ YES; score is 700 (stop here)
☒ NO (continue)

FACTOR 1: Toxic Pollutant Potential

PCS SIC Code: 2861 Primary SIC Code: 2869

Other SIC Codes: 2899

Industrial Subcategory Code: (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. Be sure to use the TOTAL toxicity potential column and check one

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
<input type="checkbox"/> No process waste streams	0	0	<input type="checkbox"/> 3.	3	15	<input type="checkbox"/> 7.	7	35
<input type="checkbox"/> 1.	1	5	<input type="checkbox"/> 4.	4	20	<input type="checkbox"/> 8.	8	40
<input type="checkbox"/> 2.	2	10	<input type="checkbox"/> 5.	5	25	<input type="checkbox"/> 9.	9	45
			<input checked="" type="checkbox"/> 6.	6	30	<input type="checkbox"/> 10.	10	50

Code Number Checked: 06

Total Points Factor 1: 30

30

FACTOR 2: Flow/Stream Flow Volume (Complete Either Section A or Section B; check only one)

Section A--Wastewater Flow Only Considered

Wastewater Type (See Instructions)	Code	Points
Type I: Flow < 5 MGD	11	0
Flow 5 to 10 MGD	12	10
Flow > 10 to 50 MGD	13	20
Flow > 50 MGD	14	30
Type II: Flow < 1 MGD	21	10
Flow 1 to 5 MGD	22	20
Flow > 5 to 10 MGD	23	30
Flow > 10 MGD	24	50
Type III: Flow < 1 MGD	31	0
Flow 1 to 5 MGD	32	10
Flow > 5 to 10 MGD	33	20
Flow > 10 MGD	34	30

Section B--Wastewater and Stream Flow Considered

Wastewater Type (See Instructions)	Percent of Instream Wastewater Concentration at Receiving Stream Low Flow	Code	Points
Type I/II:	< 10%	41	0
	> 10% to < 50%	42	10
	> 50%	43	20
Type II:	<10%	51	0
	> 10% to < 50%	<input checked="" type="checkbox"/> 52	20
	> 50%	53	30

Code Checked from Section A or B: 52

Total Points Factor 2: 20

20

NPDES Permit Rating Work Sheet

NPDES No.: VA0003433

FACTOR 3: Conventional Pollutants

(only when limited by the permit)

A. Oxygen Demanding Pollutant: (check one) ☒ BOD ☐ COD ☐ Other: _____

Permit Limits: (check one)		Code	Points
<input type="checkbox"/> < 100 lbs/day		1	0
<input checked="" type="checkbox"/> 100 to 1000 lbs/day		2	5
<input type="checkbox"/> >1000 to 3000 lbs/day		3	15
<input type="checkbox"/> >3000 lbs/day		4	20

Code Checked: 2
Points Scored: 05

B. Total Suspended Solids (TSS)

Permit Limits: (check one)		Code	Points
<input type="checkbox"/> < 100 lbs/day		1	0
<input checked="" type="checkbox"/> 100 to 1000 lbs/day		2	5
<input type="checkbox"/> >1000 to 5000 lbs/day		3	15
<input type="checkbox"/> >5000 lbs/day		4	20

Code Checked: 2
Points Scored: 05

C. Nitrogen Pollutant: (check one) ☐ Ammonia ☐ Other: _____

Permit Limits: (check one)		Code	Points
<input type="checkbox"/> < 300 lbs/day		1	0
<input type="checkbox"/> 300 to 1000 lbs/day		2	5
<input type="checkbox"/> >1000 to 3000 lbs/day		3	15
<input type="checkbox"/> >3000 lbs/day		4	20

NA

Code Checked:
Points Scored: 00

Total Points Factor 3: 10

FACTOR 4: Public Health Impact

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this includes any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above referenced supply.

☐ YES (if yes, check toxicity potential number below)
☒ NO (if no, go to Factor 5)

Determine the human health toxicity potential from Appendix A. Use the same SIC code and subcategory reference as in Factor 1. (Be sure to use the human health toxicity group column -- check one below)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
<input type="checkbox"/> No process waste streams	0	0	<input type="checkbox"/> 3.	3	0	<input type="checkbox"/> 7.	7	15
<input type="checkbox"/> 1.	1	0	<input type="checkbox"/> 4.	4	0	<input type="checkbox"/> 8.	8	20
<input type="checkbox"/> 2.	2	0	<input type="checkbox"/> 5.	5	5	<input type="checkbox"/> 9.	9	25
			<input type="checkbox"/> 6.	6	10	<input type="checkbox"/> 10.	10	30

Code Number Checked:

Total Points Factor 4:

NPDES Permit Rating Work Sheet

NPDES No.: ✓ A 0 0 0 3 4 3 3

FACTOR 5: Water Quality Factors

- A. Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-based federal effluent guidelines, or technology-based state effluent guidelines), or has a wasteload allocation been assigned to the discharge?

	Code	Points
<input checked="" type="checkbox"/> Yes	1	10
<input type="checkbox"/> No	2	0

- B. Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?

	Code	Points
<input checked="" type="checkbox"/> Yes	1	0
<input type="checkbox"/> No	2	5

- C. Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?

	Code	Points
<input checked="" type="checkbox"/> Yes	1	10
<input type="checkbox"/> No	2	0

Code Number Checked: A 1 B 1 C 1
 Points Factor 5: A 10 + B 0 + C 10 = 20 TOTAL

20

FACTOR 6: Proximity to Near Coastal Waters

- A. Base Score: Enter flow code here (from Factor 2): 52 Enter the multiplication factor that corresponds to the flow code: .30

Check appropriate facility HPRI Code (from PCS):

HPRI #	Code	HPRI Score	Flow Code	Multiplication Factor
<u>1</u>	1	20	11, 31, or 41	0.00
<u>2</u>	2	0	12, 32, or 42	0.05
<u>3</u>	3	30	13, 33, or 43	0.10
<u>4</u>	4	0	14 or 34	0.15
<u>5</u>	5	20	21 or 51	0.10
			22 or 52	0.30
			23 or 53	0.60
			24	1.00

HPRI code checked: 3

Base Score: (HPRI Score) 30 x (Multiplication Factor) .3 = 10 (TOTAL POINTS)

- B. Additional Points--NEP Program

For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay?

	Code	Points
<input checked="" type="checkbox"/> Yes	1	10
<input type="checkbox"/> No	2	0

- C. Additional Points--Great Lakes Area of Concern

for a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 areas of concern (see instructions)

	Code	Points
<input checked="" type="checkbox"/> Yes	1	10
<input type="checkbox"/> No	2	0

Code Number Checked: A 3 B 1 C 2
 Points Factor 6: A 10 + B 10 + C 20 = 20 TOTAL

20

NPDES Permit Rating Work Sheet

NPDES NO: V A 0 0 0 3 4 3 3

SCORE SUMMARY

Factor	Description	Total Points
1	Toxic Pollutant Potential	<u>30</u>
2	Flow/Stream flow Volume	<u>20</u>
3	Conventional Pollutants	<u>10</u>
4	Public Health Impacts	<u>0</u>
5	Water Quality Factors	<u>20</u>
6	Proximity to Near Coastal Waters	<u>20</u>
TOTAL (Factors 1-6)		<u>100</u>

S1. Is the total score equal to or greater than 80? ☒ Yes (Facility is a major) ☐ No

S2. If the answer to the above question is no, would you like this facility to be discretionary major?

☐ No

☐ Yes (add 500 points to the above score and provide reason below:

Reason:

NEW SCORE: 100

OLD SCORE: 100

Mark Sauer

Permit Reviewer's Name

(757) 518-2105

Phone Number

1/6/11

Date

**State "Transmittal Checklist" to Assist in Targeting
Municipal and Industrial Individual NPDES Draft Permits for Review**

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name: Ashland Hercules
 NPDES Permit Number: VA0003433
 Permit Writer Name: Mark Sauer
 Date: 1/6/11

Major ☒Minor ☐Industrial ☒Municipal ☐

I.A. Draft Permit Package Submittal Includes:

	Yes	No	N/A
1. Permit Application?	<input checked="" type="checkbox"/>		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	<input checked="" type="checkbox"/>		
3. Copy of Public Notice?		<input checked="" type="checkbox"/>	
4. Complete Fact Sheet?	<input checked="" type="checkbox"/>		
5. A Priority Pollutant Screening to determine parameters of concern?	<input checked="" type="checkbox"/>		
6. A Reasonable Potential analysis showing calculated WQBELs?	<input checked="" type="checkbox"/>		
7. Dissolved Oxygen calculations?		<input checked="" type="checkbox"/>	
8. Whole Effluent Toxicity Test summary and analysis?	<input checked="" type="checkbox"/>		
9. Permit Rating Sheet for new or modified industrial facilities?	<input checked="" type="checkbox"/>		

I.B. Permit/Facility Characteristics

	Yes	No	N/A
1. Is this a new, or currently unpermitted facility?		<input checked="" type="checkbox"/>	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	<input checked="" type="checkbox"/>		
3. Does the fact sheet or permit contain a description of the wastewater treatment process?	<input checked="" type="checkbox"/>		

I.B. Permit/Facility Characteristics - cont.

	Yes	No	N/A
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		✓	
5. Has there been any change in streamflow characteristics since the last permit was developed?		✓	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		✓	
7. Does the fact sheet or permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	✓		
8. Does the facility discharge to a 303(d) listed water?		✓	
a. Has a TMDL been developed and approved by EPA for the impaired water?			✓
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?			✓
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?			✓
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?	✓		
10. Does the permit authorize discharges of storm water?	✓		
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		✓	
12. Are there any production-based, technology-based effluent limits in the permit?	✓		
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		✓	
14. Are any WQBELs based on an interpretation of narrative criteria?	✓		
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		✓	
16. Does the permit contain a compliance schedule for any limit or condition?		✓	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		✓	
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?			✓
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?	✓		
20. Have previous permit, application, and fact sheet been examined?	✓		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Review Checklist – For Non-Municipals (To be completed and included in the record for all non-POTWs)

II.A. Permit Cover Page/Administration

	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	✓		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	✓		

II.B. Effluent Limits - General Elements

	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	✓		
2. Does the fact sheet discuss whether “antibacksliding” provisions were met for any limits that are less stringent than those in the previous NPDES permit?	✓		

II.C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ)

	Yes	No	N/A
1. Is the facility subject to a national effluent limitations guideline (ELG)?	✓		
a. If yes, does the record adequately document the categorization process, including an evaluation of whether the facility is a new source or an existing source?	✓		
b. If no, does the record indicate that a technology-based analysis based on Best Professional Judgement (BPJ) was used for all pollutants of concern discharged at treatable concentrations?			✓
2. For all limits developed based on BPJ, does the record indicate that the limits are consistent with the criteria established at 40 CFR 125.3(d)?	✓		
3. Does the fact sheet adequately document the calculations used to develop both ELG and /or BPJ technology-based effluent limits?	✓		
4. For all limits that are based on production or flow, does the record indicate that the calculations are based on a “reasonable measure of ACTUAL production” for the facility (not design)?	✓		
5. Does the permit contain “tiered” limits that reflect projected increases in production or flow?		✓	
a. If yes, does the permit require the facility to notify the permitting authority when alternate levels of production or flow are attained?			✓
6. Are technology-based permit limits expressed in appropriate units of measure (e.g., concentration, mass, SU)?	✓		

II.C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ) – cont.



	Yes	No	N/A
7. Are all technology-based limits expressed in terms of both maximum daily, weekly average, and/or monthly average limits?	✓		
8. Are any final limits less stringent than required by applicable effluent limitations guidelines or BPJ?		✓	

II.D. Water Quality-Based Effluent Limits

	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	✓		
2. Does the record indicate that any WQBELs were derived from a completed and EPA approved TMDL?		✓	
3. Does the fact sheet provide effluent characteristics for each outfall?	✓		
4. Does the fact sheet document that a “reasonable potential” evaluation was performed?	✓		
a. If yes, does the fact sheet indicate that the “reasonable potential” evaluation was performed in accordance with the State’s approved procedures?	✓		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	✓		
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have “reasonable potential”?	✓		
d. Does the fact sheet indicate that the “reasonable potential” and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations where data are available)?	✓		
e. Does the permit contain numeric effluent limits for all pollutants for which “reasonable potential” was determined?	✓		
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	✓		
6. For all final WQBELs, are BOTH long-term (e.g., average monthly) AND short-term (e.g., maximum daily, weekly average, instantaneous) effluent limits established?	✓		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	✓		
8. Does the fact sheet indicate that an “antidegradation” review was performed in accordance with the State’s approved antidegradation policy?	✓		

<u>II.E. Monitoring and Reporting Requirements</u>		Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters?		✓		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?				
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?		✓		
3. Does the permit require testing for Whole Effluent Toxicity in accordance with the State's standard practices?		✓		

<u>II.F. Special Conditions</u>		Yes	No	N/A
1. Does the permit require development and implementation of a Best Management Practices (BMP) plan or site-specific BMPs?			✓	
a. If yes, does the permit adequately incorporate and require compliance with the BMPs?				✓
2. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?				✓
3. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?		✓		

II.G. Standard Conditions		Yes	No	N/A
1. Does the permit contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?				
List of Standard Conditions – 40 CFR 122.41				
Duty to comply	Property rights	Reporting Requirements		
Duty to reapply	Duty to provide information	Planned change		
Need to halt or reduce activity	Inspections and entry	Anticipated noncompliance		
not a defense	Monitoring and records	Transfers		
Duty to mitigate	Signatory requirement	Monitoring reports		
Proper O & M	Bypass	Compliance schedules		
Permit actions	Upset	24-Hour reporting		
		Other non-compliance		
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for existing non-municipal dischargers regarding pollutant notification levels [40 CFR 122.42(a)]?				

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	<u>Mark Sauer</u>
Title	<u>ULS</u>
Signature	<u>Water Permit Worker</u>
Date	<u>1/7/11</u>

ATTACHMENT 13

CHRONOLOGY SHEET

ATTACHMENT 14

PERTINENT CORRESPONDENCE

Sauer, Mark (DEQ)

From: Sauer, Mark (DEQ)
Sent: Friday, January 21, 2011 11:04 AM
To: 'Smith.Mark@epamail.epa.gov'
Subject: VA0003433 Hercules Draft Permit Package for Review

Mark –

Attached is a link to the FTP site that contains the documents for a modification to the subject permit. The permittee submitted a modification request for two items in the permit. The first item is to remove internal outfall 202, which was the dewatering of the sludge ponds on site in accordance with an EPA-lead corrective action. That corrective action has been completed and the outfall is no longer in use and no longer in existence. The second item was to increase the final temperature limit from 30 degrees C to 32 degrees C at outfall 002. The permittee submitted a thermal mixing study to support its request and we approved the request and the results of the study. A limit of 32 degrees C still meets water quality standards at the discharge.

If you have any questions or need more information, please feel free to contact me. Thank you.

<ftp://ftp.deq.virginia.gov/wps/EPA/TRO/VA0003433%202011/>

Mark Sauer
DEQ-TRO Water Permits Section
757-518-2105
mark.sauer@deq.virginia.gov

Sauer, Mark (DEQ)

From: Sean M Maconaghy [smmaconaghy@ashland.com]
Sent: Friday, January 21, 2011 1:38 PM
To: Sauer, Mark (DEQ)
Subject: Re: draft permit

Mark,

Thank you for your work on this and the update. I'll let Andy know to be looking for it in the mail. Thank you again!!!

Take Two, Take Care and Be Safe,

Sean M. Maconaghy
EHS Manager
Ashland Hercules Water Technologies - Franklin, VA

Phone: 757-562-3121 ext. 176
e-Mail: smmaconaghy@ashland.com

From: "Sauer, Mark (DEQ)" <Mark.Sauer@deq.virginia.gov>
To: Sean M Maconaghy/Franklin/NA/Herc@Ashland
Date: 01/21/11 01:35 PM
Subject: draft permit

Sean –

The draft permit with the revised temp limit and the elimination of outfall 202 went out in the mail today; it was addressed to Mr. Chapman. The public notice authorization form is included in the package; you'll need to sign that and return it, along with any comments you have on the draft permit. Once you're satisfied with it, we'll send it to the newspaper for public notice. EPA is also reviewing it concurrently with your review. Let me know if you have any questions or see anything that doesn't look right.

Thanks.

Mark Sauer
DEQ-TRO Water Permits Section
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ATTACHMENT 15

PUBLIC PARTICIPATION